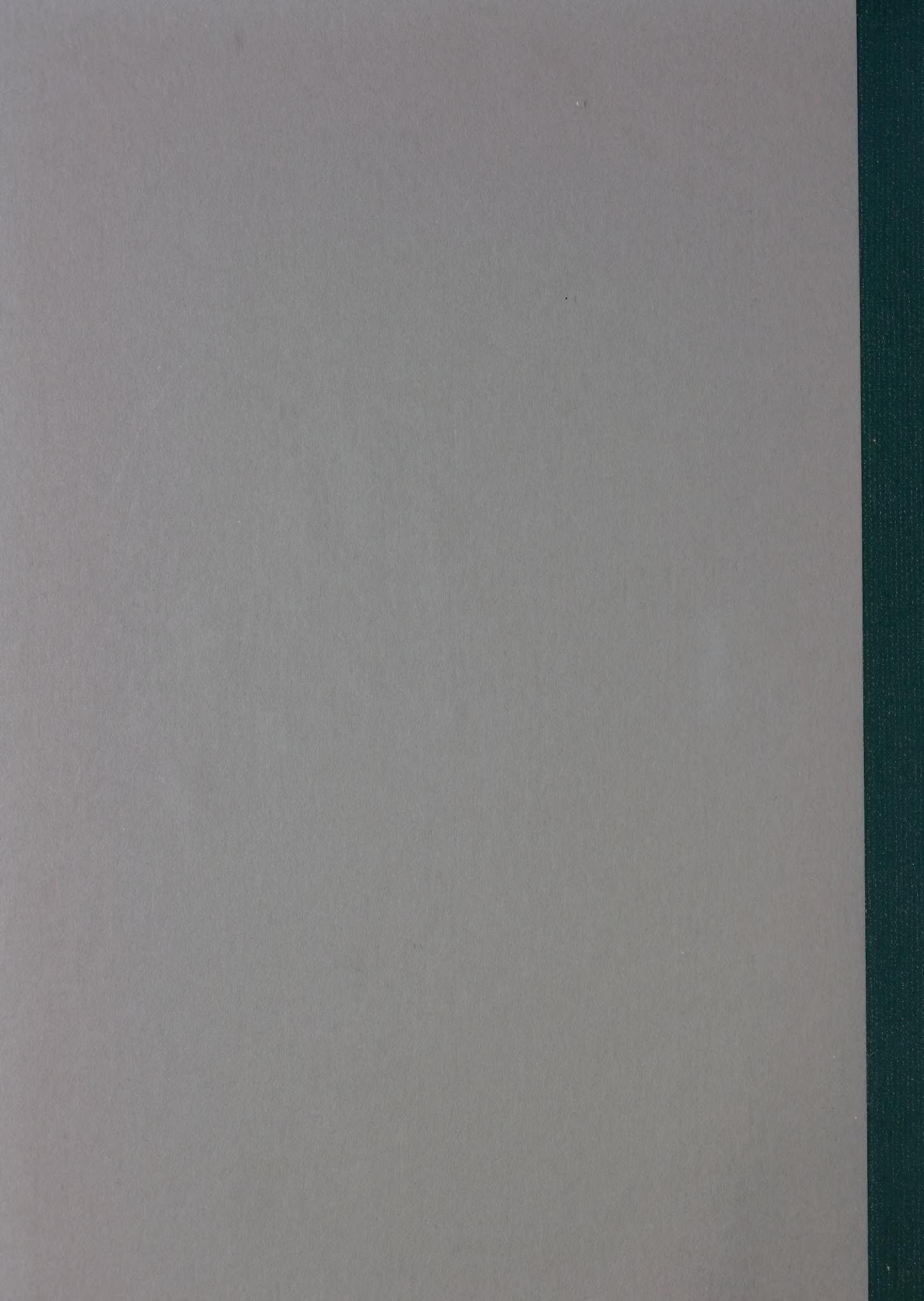
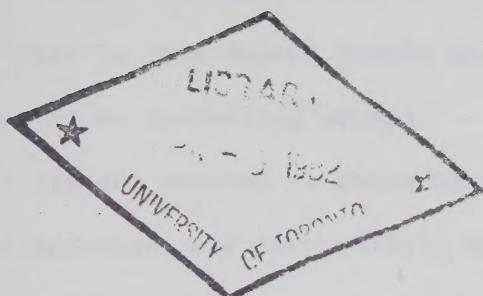


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Past and Present Graduation Trends at Canadian
Universities and Implications for the Eighties,
with Special Emphasis on Women
and on Science Graduates

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Some Highlights

During the sixties and seventies, Canadian universities granted 1,173,500 bachelor's and first professional degrees, 158,200 master's degrees, and 24,800 doctorates. It is estimated that during the eighties more than a million degrees will be awarded. In 1960-61 just 1 out of 4 bachelor's degrees was awarded to a woman. By 1980, women were earning 1 out of every 2, and it is anticipated that in this decade female bachelor's degree recipients will outnumber men by an increasing margin.

Master's degrees awarded to women have increased in all fields, especially in the human sciences, and particularly in business. The number of women earning MBA's grew from 26 in 1970-71 to an estimated 350 in 1980. Although the proportion of women graduating at the master's level in engineering more than tripled, they now constitute just 7% of the total (78 master's graduates). At the doctoral level, men exceed women by a ratio of four to one: ten years earlier the ratio was 10 to one.

The male graduation rate, expressed as a percentage of the 20-29 age group, declined during the seventies from 3.1% to 2.4%, and this trend will continue for the next few years. In contrast, the female graduation rate grew from 0.5% to more than 2.0%. Although this growth has levelled off, it is likely that the percentage will change, partly because of women's rising enrolment rate and a higher completion rate than that of men. The overall completion rate (the relationship of degrees to enrolment) for women was 31%, as opposed to 24% for men. This pattern was different at the graduate level where the male rate was considerably above women's. For example, for the seventies the completion rate at the master's level in engineering was 29.2% for men and 18.1% for women. At the doctoral level, about 15% of the men graduated each year, while the percentage of women remained below 10%.

Women received a proportionately greater share of the bachelor's degrees in traditionally female-dominated disciplines such as education, fine and applied arts, and some of the humanities and social sciences. In recent years, the number of women graduating from professional programs such as business and law has also grown substantially. As an illustration, women account for more than one-third of present enrolment in these two fields compared with less than 10% a few years ago.

Female participation in the sciences has grown remarkably, but it started from a very low base. For example, in 1970-71 just 1.2% of the engineering graduates were women; this percentage increased to 7.6% in 1980 (in absolute numbers it was a tenfold increase from 51 to 553).

There was a substantial shift away from the sciences at the graduate level, particularly if foreign students are excluded. For example, during the early seventies more than two-thirds of all Ph.D.'s were awarded in the sciences; this has declined to a ratio of one to one. This decline was particularly marked for male Ph.D. recipients in agriculture and the physical sciences, whose numbers fell from 691 in 1970-71 to 345 in 1980.

This pattern can also be illustrated by expressing graduate degrees as a percentage of undergraduate degrees. In 1970-71 master's degrees in the sciences amounted to 15% of bachelor's degrees, but the percentage has fallen to 9%. The drop at the doctoral level was more pronounced: Ph.D. graduates amounted to 6% of bachelor's degrees in 1970-71 and declined to 2.5% in 1980. This decrease in the sciences is evident when degrees are related to the population. During the seventies male Ph.D. recipients fell from 12 to 5 out of 10,000 population aged 25-29. Based on current doctoral enrolment trends, this decline will continue. Over the 1982-1986 period, a total of 600 Ph.D.'s will be awarded annually in the sciences to Canadian citizens and permanent residents. These projections mean that by the mid-eighties qualified research personnel may become scarce. Yet at the same time, the government is committed to increasing R and D expenditures from about 1% of GNP to 1.5%.

Foreword

The purpose of this report is to document the increase in university graduations by level of study and the shifts in students' preferences, particularly toward professional degrees. During the twenty years from 1960-61 to 1980, the number of female degree recipients has grown remarkably. In recent years, another trend has also become apparent - a decline in science degrees, particularly at the graduate level. The results of these changes will manifest themselves in this decade and may create imbalances in the supply of and demand for highly qualified manpower.

A number of studies have addressed Canada's future manpower requirements.* This report presents detailed information on graduation patterns by type of degree and field of study for the sixties and seventies, and at the same time, develops a scenario for the eighties.

The actual data can be used by readers for their own purposes; the indicators (graduation index; graduation rate; graduate degrees as a percentage of undergraduate degrees; and completion rate) illustrate interesting trends in university graduation and supplement the statistical series, which provides a quantitative basis for further research. It is hoped that this report may assist the university community and the government in formulating policies for the 1980s by reviewing what has happened and what is happening to graduation trends at Canadian universities.

* Among them: Employment and Immigration, Labour Market Development in the 1980s, 1981, pp. 243; House of Commons, Parliamentary Task Force on Federal-Provincial Fiscal Arrangements, Fiscal Federalism in Canada, August 1981, pp. 214; House of Commons, Parliamentary Task Force on Employment Opportunities for the 80s, Work for Tomorrow: Employment Opportunities for the 80s, October 1981, pp. 171; W. Clark, and Z. Zsigmond, Statistics Canada, Projections Section, Education, Science and Culture Division, Job Market Reality for Post-secondary Graduates: Employment Outcome by 1978, Two Years After Graduation, March 1981, pp. 509.

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Introduction

Degree-holders are "highly qualified manpower", but the labour market for their services has changed substantially in recent years. Therefore, it is useful to examine the supply of graduates from Canada's universities over the past two decades. The popularity of some fields of study has risen, while that of others has dropped. Throughout the period, the number of women earning degrees has increased steadily. Both developments will affect the supply of highly qualified manpower.

This report begins with a review of degrees granted by Canadian universities at all levels (bachelor's or first professional, master's and doctoral) for 1960-61 to 1980, with more detailed analysis of the seventies, and some predictions for the eighties. Several indicators (graduation index, graduation rate, graduate degrees as a percentage of undergraduate degrees and completion rate) are then used to illustrate more clearly the trends that patterns of graduation are following. Finally, female graduation patterns are emphasized, and science degrees, notably at the graduate level, are investigated. In the concluding section, some of the implications of the graduation supply data are examined and related to the demand for highly qualified manpower for the eighties.

Trends in University Graduation

In the past two decades, Canadian universities granted 1,173,500 bachelor's and first professional degrees, 158,200 master's degrees, and 24,800 doctorates (Table 1). From 1960-61 to 1978 the annual number of bachelor's and first professional degree recipients rose from fewer than 20,000 to close to 90,000 but declined slightly to 86,200 in 1980. At the master's level, growth was even more pronounced: from 2,200 to a high of 12,600 in 1978, and then levelling off. The increase of doctorates was greater than sixfold, from just over 300 in 1960-61 to more than 1,900 in 1972-73. Since then numbers have stabilized around 1,800.

While the overall increase of degrees at every level is impressive the rise in the number of women is spectacular. In 1960-61 just 1 out of 4 bachelor's degrees was awarded to a woman. By 1980 they were earning 1 out of 2. Among master's degree recipients, the proportion of women grew from less than 20% during the sixties to 37% by 1980. Only 27 women (9%) graduated at the doctoral level in 1960-61; the total in 1980 was 399 (23%). The rise in the number of women earning degrees continued nearly uninterrupted for 20 years but by the early seventies the number of men had peaked and levelled off, particularly in graduate studies where there has been a decline in recent years.⁽¹⁾

1) Bachelor's Degrees

Table 2 shows the relative proportions of bachelor's degrees

(1) This trend would be more apparent if the increasing numbers of foreign graduates at the master's and doctoral levels were subtracted from the total, as in Appendix Tables A-2, A-3, A-8 and A-9.

Table 1

Degrees by Type and Sex, 1960-61 to 1980

Year	Bachelor's & First Professional			Master's			Doctoral		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1960-61	14,689 (74.2)	5,108 (25.8)	19,797 (100.0)	1,874 (84.1)	354 (15.9)	2,228 (100.0)	279 (91.2)	27 (8.8)	306 (100.0)
1961-62	16,566 (72.5)	6,270 (27.5)	22,836 (100.0)	2,026 (83.0)	415 (17.0)	2,441 (100.0)	295 (91.9)	26 (8.1)	321 (100.0)
1962-63	18,017 (72.2)	6,922 (27.8)	24,939 (100.0)	2,256 (81.9)	499 (18.1)	2,755 (100.0)	387 (91.9)	34 (8.1)	421 (100.0)
1963-64	20,577 (71.6)	8,158 (28.4)	28,735 (100.0)	2,601 (82.2)	564 (17.8)	3,165 (100.0)	443 (92.1)	38 (7.9)	481 (100.0)
1964-65	23,013 (69.6)	10,042 (30.4)	33,055 (100.0)	2,894 (80.8)	687 (19.2)	3,581 (100.0)	512 (90.5)	54 (9.5)	566 (100.0)
1965-66	25,501 (67.4)	12,357 (32.6)	37,858 (100.0)	3,660 (81.8)	812 (18.2)	4,472 (100.0)	619 (88.9)	77 (11.1)	696 (100.0)
1966-67	28,498 (65.9)	14,729 (34.1)	43,227 (100.0)	4,214 (80.0)	1,051 (20.0)	5,265 (100.0)	716 (91.9)	63 (8.1)	779 (100.0)
1967-68	31,602 (64.8)	17,186 (35.2)	48,788 (100.0)	4,594 (80.0)	1,148 (20.0)	5,742 (100.0)	908 (90.3)	98 (9.7)	1,006 (100.0)
1968-69	34,494 (63.1)	20,201 (36.9)	54,695 (100.0)	5,486 (78.0)	1,549 (22.0)	7,035 (100.0)	1,021 (92.1)	87 (7.9)	1,108 (100.0)
1969-70	37,289 (61.6)	23,234 (38.4)	60,523 (100.0)	6,613 (78.4)	1,821 (21.6)	8,434 (100.0)	1,247 (90.7)	128 (9.3)	1,375 (100.0)
1970-71	41,501 (61.9)	25,551 (38.1)	67,052 (100.0)	7,493 (78.0)	2,116 (22.0)	9,609 (100.0)	1,474 (90.7)	151 (9.3)	1,625 (100.0)
1971-72	43,873 (60.6)	28,543 (39.4)	72,416 (100.0)	7,725 (75.2)	2,552 (24.8)	10,277 (100.0)	1,564 (90.7)	160 (9.3)	1,724 (100.0)
1972-73	42,565 (60.2)	28,099 (39.8)	70,664 (100.0)	7,757 (73.2)	2,846 (26.8)	10,603 (100.0)	1,712 (88.8)	217 (11.2)	1,929 (100.0)
1974	43,784 (58.5)	31,067 (41.5)	74,851 (100.0)	7,426 (72.8)	2,770 (27.2)	10,196 (100.0)	1,662 (87.7)	234 (12.3)	1,896 (100.0)
1975	44,904 (55.6)	35,850 (44.4)	80,754 (100.0)	7,949 (71.8)	3,118 (28.2)	11,067 (100.0)	1,544 (83.9)	296 (16.1)	1,840 (100.0)
1976	44,746 (53.7)	38,546 (46.3)	83,292 (100.0)	8,030 (69.5)	3,525 (30.5)	11,555 (100.0)	1,375 (81.2)	318 (18.8)	1,693 (100.0)
1977	45,721 (52.3)	41,635 (47.7)	87,356 (100.0)	8,498 (68.7)	3,877 (31.3)	12,375 (100.0)	1,396 (82.0)	306 (18.0)	1,702 (100.0)
1978	46,011 (51.5)	43,271 (48.5)	89,282 (100.0)	8,486 (67.2)	4,151 (32.8)	12,637 (100.0)	1,488 (81.8)	331 (18.2)	1,819 (100.0)
1979	44,302 (50.8)	42,828 (49.2)	87,130 (100.0)	7,903 (64.0)	4,448 (36.0)	12,351 (100.0)	1,434 (79.5)	369 (20.5)	1,803 (100.0)
1980	43,525 (50.5)	42,718 (49.5)	86,243 (100.0)	7,778 (62.6)	4,654 (37.4)	12,432 (100.0)	1,339 (77.0)	399 (23.0)	1,738 (100.0)

Note: Percentages in brackets show distribution by sex.

Table 2

Bachelor's and First Professional Degrees, by Field of Study, 1961-62 to 1980

Field of Study	1961-62	1962-63	1963-64	1964-65	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73	1973-74	1974	1975	1976	1977	1978	1979	1980	
Education	3,740 (16.4)	4,761 (17.1)	5,917 (17.9)	7,184 (19.0)	7,767 (18.0)	8,664 (17.8)	10,066 (18.4)	12,081 (20.0)	15,209 (22.7)	16,019 (22.1)	15,285 (21.6)	14,788 (19.8)	17,573 (22.5)	18,758 (21.8)	18,940 (21.7)	19,514 (21.9)	18,250 (20.9)	16,901 (19.6)			
Fine and Applied Arts	112 (0.5)	123 (0.5)	159 (0.6)	199 (0.5)	206 (0.6)	270 (0.6)	312 (0.8)	450 (0.8)	529 (0.9)	621 (1.3)	947 (1.5)	1,064 (1.4)	1,398 (1.7)	1,523 (1.9)	1,800 (2.1)	2,907 (3.3)	2,772 (3.0)	2,651 (3.1)			
Humanities and Social Sciences	11,966 (50.4)	13,424 (53.8)	15,855 (55.2)	18,184 (55.0)	21,105 (57.3)	24,756 (56.9)	27,775 (55.6)	30,427 (53.7)	32,452 (51.4)	34,463 (51.1)	37,110 (50.5)	35,661 (51.2)	38,311 (48.9)	39,511 (48.3)	40,243 (49.7)	43,260 (49.7)	42,548 (47.6)	41,171 (47.3)	41,108 (47.6)		
Sub-total Human Sciences	15,818 (69.3)	17,808 (71.4)	20,779 (72.3)	26,300 (73.5)	28,495 (75.3)	32,793 (75.9)	36,751 (75.3)	40,943 (74.8)	45,062 (74.5)	50,293 (75.0)	54,076 (74.5)	52,024 (73.6)	54,163 (72.4)	58,482 (72.4)	60,524 (72.4)	64,000 (72.7)	64,969 (73.5)	61,993 (72.8)	60,660 (71.2)	60,660 (70.3)	
Agriculture and Biological Sciences	726 (3.2)	763 (3.1)	813 (2.8)	866 (2.6)	945 (2.5)	1,102 (2.5)	1,159 (2.4)	1,244 (2.4)	1,265 (2.3)	1,266 (2.1)	1,355 (1.9)	1,313 (1.9)	1,595 (1.9)	1,738 (2.2)	1,980 (2.4)	2,095 (2.4)	2,179 (2.4)	1,947 (2.2)	2,019 (2.3)		
Engineering and Applied Sciences	2,649 (11.6)	2,397 (9.6)	2,629 (9.2)	2,491 (7.5)	2,582 (6.8)	2,664 (6.2)	2,998 (6.1)	3,306 (6.0)	4,096 (6.8)	4,410 (6.0)	4,539 (6.6)	4,569 (6.2)	4,610 (6.5)	4,728 (6.2)	4,560 (5.9)	5,160 (5.5)	6,029 (5.9)	6,706 (6.7)	7,297 (7.7)	7,297 (8.5)	
Other Sciences	1,927 (8.4)	2,225 (8.9)	2,707 (9.4)	3,132 (9.5)	3,595 (9.5)	4,193 (9.7)	5,127 (10.7)	6,320 (11.6)	6,739 (11.1)	7,725 (11.5)	8,788 (12.1)	8,862 (12.5)	9,762 (13.0)	11,020 (13.6)	11,189 (13.4)	10,530 (12.1)	10,586 (11.9)	10,854 (12.5)	10,593 (12.3)		
Sub-total	5,302 (23.2)	5,385 (21.6)	6,149 (21.4)	6,489 (19.6)	7,122 (18.8)	7,959 (19.0)	9,284 (18.4)	10,870 (19.9)	12,100 (20.0)	13,401 (20.0)	14,682 (20.2)	14,744 (20.9)	15,967 (21.3)	17,486 (21.7)	17,729 (21.3)	17,785 (20.4)	18,794 (21.0)	19,507 (22.4)	19,509 (23.1)		
Medical Sciences	1,716 (7.5)	1,746 (7.0)	1,807 (6.3)	2,266 (6.9)	2,241 (5.9)	2,475 (5.7)	2,752 (5.7)	2,882 (5.3)	3,291 (5.5)	3,406 (5.0)	3,806 (5.3)	3,928 (5.5)	4,721 (6.3)	4,769 (5.9)	5,023 (6.0)	5,285 (6.1)	5,519 (6.2)	5,630 (6.4)	5,674 (6.6)		
Total Sciences	7,018 (30.7)	7,131 (28.6)	7,956 (27.7)	8,755 (26.5)	9,363 (24.7)	10,434 (24.1)	12,036 (24.7)	13,752 (25.2)	15,391 (25.5)	16,807 (25.0)	18,488 (25.5)	18,672 (25.0)	20,688 (26.4)	22,255 (27.6)	22,752 (27.3)	23,070 (26.5)	24,313 (27.2)	25,137 (28.8)	25,583 (29.7)		
Grand Total	22,836 (100.0)	24,939 (100.0)	28,735 (100.0)	33,055 (100.0)	37,858 (100.0)	43,227 (100.0)	48,787 (100.0)	54,695 (100.0)	60,453 (100.0)	67,100 (100.0)	72,564 (100.0)	70,696 (100.0)	74,851 (100.0)	80,737 (100.0)	83,276 (100.0)	87,070 (100.0)	89,282 (100.0)	87,130 (100.0)	86,243 (100.0)		

awarded in different fields of study.⁽²⁾ The percentage in the human sciences reached a high of 76% in 1966-67 and then remained relatively stable, although in recent years it has shown a tendency to decline. This means, of course, that the opposite pattern prevailed in the sciences, with comparatively large proportions of graduates at the beginning and end of the period and a decline in the intervening years. For example, engineering degrees fell from a high of 11.6% of the 1961-62 total to a low of 5.5% in 1976, and increased again to 8.5% in 1980.

As already noted, the sex distribution of bachelor's degree recipients has changed substantially. During the seventies the proportion of women rose from 38% to 49.5% (Table 3). In 1980 women accounted for more than half of all human sciences graduates, and in education and in fine and applied arts 2 out of 3 graduates were women. The reverse was true for the sciences where only 1 out of 3 was female. This, however, is a change over a decade earlier when only every fourth science graduate was a woman. In engineering and applied sciences the proportion of women increased from 1.2% to 7.6%.

2) Master's Degrees

At the master's level in the seventies there was a shift of graduates from the sciences to the human sciences (Table 4).

(2) Appendix Table A-1 contains a more detailed breakdown of bachelor's degrees by field of study. Statistics Canada identifies eight fields of study: education, fine and applied arts, humanities, social sciences, agricultural and biological sciences, engineering and applied sciences, health sciences, and mathematics and physical sciences. For the purposes of this report, the first four are defined as "human sciences", and the remainder as "sciences". However, this aggregation frequently conceals divergent trends. For example, in "mathematics and physical sciences", substantial increases in computer science and geology graduates offset declines in mathematics, physics and chemistry. The same applies to the social sciences which encompass "growth" disciplines such as business and law, as well as disciplines such as geography, political science and social work.

Table 3

Bachelor's and First Professional Degrees by Field of Study and Sex, 1970-71 to 1980

Field of Study	1970-71	1971-72	1972-73	1974	1975	1976	1977	1978	1979	1980	
Education	Male	7,277 (47.2)	7,425 (45.4)	7,732 (47.2)	6,947 (45.3)	7,517 (40.8)	7,433 (37.9)	7,343 (37.1)	6,788 (34.8)	6,023 (33.0)	5,279 (31.2)
	Female	8,129 (52.8)	8,914 (54.6)	8,664 (52.8)	8,373 (54.7)	10,903 (59.2)	12,171 (62.1)	12,432 (62.9)	12,726 (65.2)	12,227 (67.0)	11,622 (68.8)
	Total	15,406 (100.0)	16,339 (100.0)	16,396 (100.0)	15,320 (100.0)	18,420 (100.0)	19,604 (100.0)	19,775 (100.0)	19,514 (100.0)	18,250 (100.0)	16,901 (100.0)
Fine and Applied Arts	Male	526 (45.2)	525 (39.3)	603 (39.6)	697 (36.8)	876 (39.6)	913 (38.6)	860 (34.6)	1,059 (36.4)	941 (36.6)	936 (35.3)
	Female	639 (54.8)	810 (60.7)	920 (60.4)	1,198 (63.2)	1,336 (60.4)	1,453 (61.4)	1,627 (65.4)	1,848 (63.6)	1,631 (63.4)	1,715 (64.7)
	Total	1,165 (100.0)	1,335 (100.0)	1,523 (100.0)	1,895 (100.0)	2,212 (100.0)	2,366 (100.0)	2,487 (100.0)	2,907 (100.0)	2,572 (100.0)	2,651 (100.0)
Humanities	Male	4,658 (53.0)	4,680 (50.7)	4,606 (50.6)	4,729 (47.9)	4,536 (45.2)	4,339 (43.9)	4,511 (43.1)	4,107 (41.1)	3,847 (40.6)	3,748 (40.0)
	Female	4,137 (47.0)	4,548 (49.3)	4,500 (49.4)	5,139 (52.1)	5,510 (54.8)	5,534 (56.1)	5,965 (56.9)	5,881 (58.9)	5,625 (59.4)	5,618 (60.0)
	Total	8,795 (100.0)	9,228 (100.0)	9,106 (100.0)	9,868 (100.0)	10,046 (100.0)	9,873 (100.0)	10,476 (100.0)	9,988 (100.0)	9,472 (100.0)	9,366 (100.0)
Social Sciences	Male	12,081 (73.5)	12,699 (71.3)	12,728 (70.3)	13,934 (67.3)	14,544 (64.7)	14,788 (63.5)	15,379 (60.6)	15,921 (59.5)	16,638 (58.1)	15,455 (57.2)
	Female	4,345 (26.5)	5,117 (28.7)	5,379 (29.7)	6,777 (32.7)	7,926 (35.3)	8,496 (36.5)	10,005 (39.4)	10,823 (40.5)	11,267 (41.9)	11,567 (42.8)
	Total	16,426 (100.0)	17,816 (100.0)	18,107 (100.0)	20,711 (100.0)	22,470 (100.0)	23,284 (100.0)	25,384 (100.0)	26,744 (100.0)	26,905 (100.0)	27,022 (100.0)
Sub-total Human Sciences	Male	24,542 (58.7)	25,329 (56.6)	25,669 (56.9)	26,307 (55.0)	27,473 (51.7)	27,473 (49.8)	28,093 (48.3)	27,875 (47.1)	26,449 (46.2)	25,418 (45.4)
	Female	17,250 (41.3)	19,389 (43.4)	19,463 (43.1)	21,487 (45.0)	25,675 (48.3)	27,654 (50.2)	30,029 (51.7)	31,278 (52.9)	30,750 (53.8)	30,522 (54.6)
	Total	41,792 (100.0)	44,718 (100.0)	45,132 (100.0)	47,794 (100.0)	53,148 (100.0)	55,127 (100.0)	58,122 (100.0)	59,153 (100.0)	57,199 (100.0)	55,940 (100.0)
Agriculture & Biological Sciences	Male	1,886 (60.8)	2,157 (60.3)	2,122 (60.6)	2,418 (55.4)	2,703 (53.8)	3,183 (54.5)	3,279 (53.2)	3,285 (52.7)	2,845 (50.9)	2,700 (49.5)
	Female	1,214 (39.2)	1,419 (39.7)	1,380 (39.4)	1,943 (44.6)	2,322 (46.2)	2,657 (45.5)	2,881 (46.8)	2,949 (47.3)	2,748 (49.1)	2,755 (50.5)
	Total	3,100 (100.0)	3,576 (100.0)	3,502 (100.0)	4,361 (100.0)	5,025 (100.0)	5,840 (100.0)	6,160 (100.0)	6,234 (100.0)	5,593 (100.0)	5,455 (100.0)
Engineering & Applied Sciences	Male	4,375 (98.8)	4,616 (98.1)	4,578 (98.1)	4,602 (98.0)	4,681 (97.3)	4,626 (96.5)	5,070 (95.2)	5,640 (93.5)	6,237 (93.0)	6,744 (92.4)
	Female	51 (1.2)	.88 (1.9)	87 (1.9)	94 (2.0)	128 (2.7)	170 (3.5)	254 (4.8)	389 (6.5)	469 (7.0)	553 (7.6)
	Total	4,426 (100.0)	4,704 (100.0)	4,665 (100.0)	4,696 (100.0)	4,809 (100.0)	4,796 (100.0)	5,324 (100.0)	6,029 (100.0)	6,706 (100.0)	7,297 (100.0)
Health Professions	Male	1,945 (51.4)	2,073 (53.2)	2,058 (49.6)	2,526 (51.2)	2,412 (47.4)	2,536 (46.3)	2,499 (43.9)	2,416 (42.6)	2,379 (41.4)	2,346 (40.7)
	Female	1,842 (48.6)	1,823 (48.6)	2,088 (50.4)	2,410 (48.8)	2,680 (52.6)	2,943 (53.7)	3,198 (56.1)	3,253 (57.4)	3,373 (58.6)	3,413 (59.3)
	Total	3,787 (100.0)	3,896 (100.0)	4,146 (100.0)	4,936 (100.0)	5,092 (100.0)	5,479 (100.0)	5,697 (100.0)	5,669 (100.0)	5,752 (100.0)	5,759 (100.0)
Mathematics & Physical Sciences	Male	3,119 (80.6)	3,267 (78.8)	3,150 (78.1)	3,182 (77.3)	3,174 (78.2)	2,988 (76.8)	3,105 (75.9)	3,184 (75.1)	3,087 (71.9)	3,123 (71.6)
	Female	751 (19.4)	879 (21.2)	885 (21.9)	934 (22.7)	883 (21.8)	904 (23.2)	986 (24.1)	1,053 (24.9)	1,205 (28.1)	1,240 (28.4)
	Total	3,870 (100.0)	4,146 (100.0)	4,035 (100.0)	4,116 (100.0)	4,057 (100.0)	3,892 (100.0)	4,091 (100.0)	4,237 (100.0)	4,292 (100.0)	4,363 (100.0)
Sub-total Sciences	Male	11,325 (74.6)	12,113 (74.2)	11,908 (72.8)	12,728 (70.3)	12,970 (68.3)	13,333 (66.6)	13,953 (65.6)	14,525 (65.1)	14,548 (65.2)	14,913 (65.2)
	Female	3,858 (25.4)	4,209 (25.8)	4,440 (27.2)	5,381 (29.7)	6,013 (31.7)	6,674 (33.4)	7,319 (34.4)	7,644 (34.5)	7,795 (34.9)	7,961 (34.8)
	Total	15,183 (100.0)	16,322 (100.0)	16,348 (100.0)	18,109 (100.0)	18,983 (100.0)	20,007 (100.0)	21,272 (100.0)	22,169 (100.0)	22,343 (100.0)	22,874 (100.0)
No Specialization	Male	5,634 (55.9)	6,431 (56.5)	4,988 (54.3)	4,749 (53.1)	4,461 (51.7)	3,940 (48.3)	3,675 (46.2)	3,611 (45.4)	3,305 (43.6)	3,194 (43.0)
	Female	4,449 (44.1)	4,945 (43.5)	4,196 (45.7)	4,199 (46.9)	4,162 (48.3)	4,218 (51.7)	4,287 (53.8)	4,349 (54.6)	4,283 (56.4)	4,235 (57.0)
	Total	10,083 (100.0)	11,376 (100.0)	9,184 (100.0)	8,948 (100.0)	8,623 (100.0)	8,158 (100.0)	7,962 (100.0)	7,960 (100.0)	7,588 (100.0)	7,429 (100.0)
Total	Male	41,501 (61.9)	43,873 (60.6)	42,565 (60.2)	43,784 (58.5)	44,904 (55.6)	44,746 (53.7)	45,721 (52.3)	46,011 (51.5)	44,302 (50.8)	43,525 (50.5)
	Female	25,557 (38.1)	28,543 (39.4)	28,099 (39.8)	31,067 (41.5)	35,850 (44.4)	38,546 (46.3)	41,635 (47.7)	43,271 (48.5)	42,828 (49.2)	42,718 (49.5)
	Total	67,058 (100.0)	72,416 (100.0)	70,664 (100.0)	74,851 (100.0)	80,754 (100.0)	83,292 (100.0)	87,356 (100.0)	89,282 (100.0)	87,130 (100.0)	86,243 (100.0)

Note: Percentages in brackets show distribution by field of study.

Table 4

Master's Degrees, by Field of Study, 1970-71 to 1980

Field of Study	1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education	1,428 (14.9)	1,741 (16.9)	1,947 (18.9)	1,992 (19.5)	2,161 (20.4)	2,354 (20.4)	2,593 (20.9)	2,825 (22.4)	2,830 (22.9)	2,826 (22.7)	
Fine and Applied Arts	84 (0.9)	98 (1.0)	106 (1.0)	120 (1.2)	130 (1.2)	158 (1.4)	168 (1.4)	167 (1.3)	219 (1.8)	196 (1.6)	
Humanities	2,017 (21.0)	2,314 (22.5)	2,262 (21.3)	2,018 (19.8)	2,126 (19.2)	1,975 (17.1)	2,061 (16.7)	2,096 (16.6)	1,861 (15.1)	1,792 (14.4)	
Social Sciences	3,129 (32.5)	3,304 (32.2)	3,522 (33.2)	3,589 (35.2)	4,058 (36.7)	4,258 (36.8)	4,490 (36.8)	4,464 (36.3)	4,437 (35.3)	4,616 (37.1)	
Sub-total Human Sciences	6,658 (69.3)	7,457 (72.5)	7,887 (74.4)	7,719 (75.7)	8,475 (76.6)	8,745 (75.7)	9,312 (75.3)	9,552 (75.6)	9,347 (75.7)	9,430 (75.8)	
Agriculture & Biological Sciences	565 (5.9)	566 (5.5)	497 (4.7)	444 (4.4)	473 (4.4)	593 (5.1)	638 (5.2)	632 (5.0)	574 (4.6)	617 (5.0)	
Engineering & Applied Sciences	1,183 (12.3)	1,030 (10.0)	1,018 (9.6)	928 (9.1)	963 (8.7)	1,014 (8.8)	1,128 (9.1)	1,150 (9.1)	1,160 (9.4)	1,109 (8.9)	
Health Sciences	257 (2.7)	273 (2.7)	291 (2.7)	262 (2.6)	303 (2.7)	321 (2.8)	363 (2.9)	424 (3.4)	470 (3.8)	504 (4.1)	
Mathematics and Physical Sciences	946 (9.8)	950 (9.2)	897 (8.5)	801 (7.8)	821 (7.4)	853 (7.4)	917 (7.4)	876 (6.9)	798 (6.5)	767 (6.2)	
Sub-total Sciences	2,951 (30.7)	2,819 (27.4)	2,703 (25.5)	2,435 (23.9)	2,560 (23.1)	2,781 (24.1)	3,046 (24.6)	3,082 (24.4)	3,002 (24.3)	2,997 (24.2)	
Unclassified	— (0.0)	1 (0.0)	1 (0.1)	1.3 (0.4)	42 (0.4)	33 (0.3)	29 (0.2)	17 (0.1)	3 (0.0)	2 (0.0)	
Total	9,609 (100.0)	10,277 (100.0)	10,603 (100.0)	10,196 (100.0)	11,068 (100.0)	11,555 (100.0)	12,375 (100.0)	12,637 (100.0)	12,351 (100.0)	12,432 (100.0)	

Note: Percentages in brackets indicate distribution by field of study.

The number of master's degrees awarded in the human sciences went from 6,658 in 1970-71 to a high of 9,552 in 1978, and has since declined slightly. Science graduates decreased from nearly 3,000 in 1970-71 to fewer than 2,500 in 1974, but in recent years the annual average has risen again to about 3,000. An increase in MBA's has much to do with the trend toward the human sciences. Their numbers rose from around 1,000 in the early seventies to 1,800 by 1980, accounting for 15% of all master's degrees (Table A-4). The number of women earning MBA grew from 26 in 1970-71 to an estimated 350 in 1980.

The increase in women was not confined to MBA's, but held for master's degrees overall (Table 5). At the beginning of the period fewer than 1 out of 4 graduates in education was a woman but the ratio is now 1:1. This near equality of the sexes has been traditional in fine and applied arts and still exists. The humanities, which include such disparate disciplines as modern languages, history, mass media studies and philosophy show the predominance of women. By 1980 female master's graduates had overtaken men: 55% versus 45% compared with 36% versus 64% ten years earlier. Although the proportion of women graduating at the master's level in engineering more than tripled, they constituted just 7% of the total. Thus, master's degrees awarded to women have increased in all fields, but especially in the human sciences. The rate of growth in the sciences was faster, but they started from a very low base.

The number of master's degrees awarded to men in the human sciences rose from 4,200 in 1969-70 to more than 6,000 in 1978, and has since fallen. In the sciences, the decline started earlier: from more than 2,600 in 1970-71 to less than 2,200 by 1980.

Table 5

Sex Distribution of Master's Degrees, by Field of Study,
1969-70 to 1980

Field of Study	1969-70	1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education	M 76.0 (960)	72.3 (1,033)	72.5 (1,263)	63.8 (1,275)	69.7 (1,329)	69.0 (1,491)	63.1 (1,485)	61.0 (1,582)	60.8 (1,718)	55.4 (1,567)	54.1 (1,528)	
	F 24.0 (303)	27.7 (395)	27.5 (478)	36.2 (722)	30.3 (603)	31.0 (670)	36.9 (869)	39.0 (1,011)	39.2 (1,107)	44.6 (1,263)	45.9 (1,298)	
	T 100.0 (1,263)	100.0 (1,428)	100.0 (1,741)	100.0 (1,997)	100.0 (1,992)	100.0 (2,161)	100.0 (2,354)	100.0 (2,593)	100.0 (2,875)	100.0 (2,830)	100.0 (2,826)	
Fine and Applied Arts	M 37.7 (26)	47.6 (40)	41.8 (41)	58.5 (62)	53.3 (66)	50.0 (65)	42.4 (67)	47.6 (80)	47.3 (79)	45.7 (100)	48.5 (95)	
	F 62.3 (43)	52.4 (44)	58.2 (57)	41.5 (44)	46.7 (56)	50.0 (65)	57.6 (91)	52.4 (88)	52.7 (88)	54.3 (119)	51.5 (101)	
	T 100.0 (69)	100.0 (84)	100.0 (98)	100.0 (106)	100.0 (112)	100.0 (130)	100.0 (158)	100.0 (168)	100.0 (167)	100.0 (219)	100.0 (196)	
Humanities	M 64.4 (1,094)	63.2 (1,275)	60.2 (1,392)	58.9 (1,333)	55.3 (1,115)	54.3 (1,154)	52.7 (1,040)	53.0 (1,092)	52.4 (1,098)	45.8 (852)	45.3 (812)	
	F 35.6 (604)	36.8 (922)	39.8 (742)	41.1 (929)	44.7 (933)	45.7 (935)	47.3 (935)	47.0 (969)	47.6 (998)	54.2 (1,009)	54.7 (980)	
	T 100.0 (1,698)	100.0 (2,017)	100.0 (2,314)	100.0 (2,262)	100.0 (2,018)	100.0 (2,126)	100.0 (1,975)	100.0 (2,061)	100.0 (2,096)	100.0 (1,861)	100.0 (1,792)	
Social Sciences	M 78.8 (2,148)	80.1 (2,597)	77.9 (2,575)	78.5 (2,765)	77.1 (2,768)	75.9 (3,082)	73.1 (3,114)	73.0 (3,276)	70.6 (3,151)	68.6 (3,044)	67.1 (3,096)	
	F 21.2 (578)	19.9 (622)	22.1 (729)	21.5 (757)	22.9 (821)	24.1 (976)	26.9 (1,144)	27.0 (1,214)	29.4 (1,313)	31.4 (1,393)	32.9 (1,520)	
	T 100.0 (2,726)	100.0 (3,129)	100.0 (3,304)	100.0 (3,522)	100.0 (3,589)	100.0 (4,058)	100.0 (4,258)	100.0 (4,490)	100.0 (4,464)	100.0 (4,437)	100.0 (4,616)	
Agriculture and Biological Sciences	M 80.7 (402)	78.2 (442)	75.8 (429)	74.0 (368)	73.9 (328)	72.3 (342)	72.5 (430)	68.7 (438)	70.4 (445)	71.3 (409)	66.1 (408)	
	F 19.3 (96)	21.8 (123)	24.2 (137)	26.0 (129)	26.1 (116)	27.7 (131)	27.5 (163)	31.3 (200)	29.6 (187)	28.7 (165)	33.9 (209)	C3
	T 100.0 (498)	100.0 (565)	100.0 (566)	100.0 (497)	100.0 (444)	100.0 (473)	100.0 (593)	100.0 (638)	100.0 (632)	100.0 (574)	100.0 (617)	
Engineering and Applied Sciences	M 98.1 (975)	99.0 (1,171)	97.3 (1,002)	97.7 (995)	97.5 (905)	96.2 (926)	96.9 (983)	96.5 (1,088)	94.0 (1,081)	94.3 (1,094)	93.0 (1,031)	
	F 1.9 (19)	1.0 (12)	2.7 (28)	2.3 (23)	2.5 (23)	3.8 (37)	3.1 (31)	3.5 (40)	6.0 (69)	5.7 (66)	7.0 (78)	
	T 100.0 (994)	100.0 (1,183)	100.0 (1,030)	100.0 (1,018)	100.0 (928)	100.0 (963)	100.0 (1,014)	100.0 (1,128)	100.0 (1,150)	100.0 (1,160)	100.0 (1,109)	
Health Sciences	M 65.9 (189)	66.9 (172)	61.5 (168)	56.7 (165)	55.7 (146)	48.8 (148)	52.3 (168)	39.4 (143)	42.0 (178)	39.6 (186)	34.3 (173)	
	F 34.1 (98)	33.1 (85)	38.5 (105)	43.3 (126)	44.3 (116)	51.2 (155)	47.7 (153)	60.6 (220)	58.0 (246)	60.4 (284)	65.7 (331)	
	T 100.0 (287)	100.0 (257)	100.0 (273)	100.0 (291)	100.0 (262)	100.0 (303)	100.0 (321)	100.0 (363)	100.0 (424)	100.0 (470)	100.0 (404)	
Mathematics and Physical Sciences	M 92.4 (812)	90.2 (853)	89.9 (854)	87.4 (784)	85.1 (682)	87.0 (714)	84.8 (723)	85.6 (785)	83.8 (734)	81.5 (650)	82.5 (633)	
	F 7.6 (67)	9.8 (93)	10.1 (96)	12.6 (113)	14.9 (119)	13.0 (107)	15.2 (130)	14.4 (132)	16.2 (142)	18.5 (148)	17.5 (134)	
	T 100.0 (879)	100.0 (946)	100.0 (950)	100.0 (897)	100.0 (801)	100.0 (821)	100.0 (853)	100.0 (917)	100.0 (876)	100.0 (798)	100.0 (767)	
Unclassified	M 70.0 (7)	—	100.0 (1)	76.9 (10)	69.0 (29)	81.8 (27)	69.0 (20)	82.4 (14)	66.7 (2)	50.0 (1)	40.0 (2)	
	F 30.0 (3)	—	—	23.1 (3)	31.0 (13)	18.2 (6)	31.0 (9)	17.6 (3)	33.3 (1)	50.0 (1)	60.0 (3)	
	T 100.0 (10)	—	100.0 (1)	100.0 (13)	100.0 (42)	100.0 (33)	100.0 (29)	100.0 (17)	100.0 (3)	100.0 (2)	100.0 (5)	
Total	M 78.5 (6,613)	78.0 (7,493)	75.2 (7,725)	73.2 (7,757)	72.8 (7,426)	71.8 (7,949)	69.5 (8,030)	68.7 (8,498)	67.2 (8,486)	64.0 (7,903)	62.6 (7,771)	
	F 21.5 (1,811)	22.0 (2,116)	24.8 (2,552)	26.8 (2,846)	27.2 (2,770)	28.2 (3,119)	30.5 (3,525)	31.3 (3,787)	32.8 (4,151)	36.0 (4,448)	37.4 (4,651)	
	T 100.0 (8,424)	100.0 (9,609)	100.0 (10,277)	100.0 (10,603)	100.0 (10,196)	100.0 (11,068)	100.0 (11,555)	100.0 (12,375)	100.0 (12,637)	100.0 (12,351)	100.0 (12,43)	

Note: Figures in brackets represent total number of master's degrees granted.

From a labour market point of view, foreign students should be excluded from the discussion because, by law, they must leave Canada when they graduate. The estimated proportion of foreign graduates grew substantially from 1969-70 to 1980.⁽³⁾ Although this proportion varies among fields, it was applied to each one to produce Tables A-2 and A-3 which show master's degrees granted to women and men, excluding foreign graduates, and Tables A-8 and A-9 for the doctoral level.

Tables A-4 to A-7 summarize master's degrees granted in four professional disciplines (business, engineering, law, and fine and applied arts), and express them as a percentage of all master's degrees. In 1979, MBA's accounted for nearly 19% of all master's degrees conferred on men; the comparable figure for women was just over 7%, although it did mark an increase from 1.2% in 1971-72. Engineering made up only 1.1% of the master's degrees women earned during this period, in contrast to 13% of those awarded to men. Women receiving degrees in law were also rare, representing just 0.2% of all master's degrees granted to women from 1969-70 to 1979. In fine and applied arts, female master's degree recipients outnumbered males (692 versus 617) during the ten-year period. This field accounted for 2.2% of all master's degrees earned by women.

3) Doctoral Degrees

As noted in the overview, the annual number of doctorates reached a high of 1,929 in 1972-73 which has never been regained (Table 1). Numbers fluctuated in the ensuing years, and in 1980 stood at 1,731. The doctoral level, like the master's, also saw a shift toward the human sciences from about 30% of graduates

(3) At the master's level, this percentage increased from an estimated 6% to 16% and at the doctoral level from an estimated 6% to 26%.

Doctoral Degrees, by Field of Study, 1970-71 to 1980

Field of Study		1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education		77 (4.7)	109 (6.3)	122 (6.3)	128 (6.8)	172 (9.4)	157 (9.3)	173 (10.2)	157 (8.6)	193 (10.7)	205 (11.8)	
Fine and Applied Arts		6 (0.4)	6 (0.4)	5 (0.3)	4 (0.2)	7 (0.4)	5 (0.3)	11 (0.6)	7 (0.4)	11 (0.6)	9 (0.5)	
Humanities		182 (11.2)	202 (11.7)	228 (11.8)	264 (13.9)	277 (15.0)	248 (14.6)	256 (15.0)	259 (14.2)	291 (16.1)	242 (14.0)	
Social Sciences		229 (14.1)	231 (13.4)	290 (15.0)	325 (17.1)	372 (20.2)	410 (24.2)	357 (21.0)	423 (23.3)	397 (22.0)	403 (23.3)	
Sub-total Human Sciences		494 (30.4)	548 (31.8)	645 (33.4)	721 (38.0)	828 (45.0)	820 (48.4)	797 (46.8)	846 (46.5)	892 (49.5)	859 (49.6)	
Agriculture & Biological Sciences		276 (17.0)	240 (13.9)	250 (13.0)	247 (13.0)	241 (13.1)	199 (11.8)	228 (13.4)	239 (13.1)	224 (12.4)	210 (12.1)	
Engineering & Applied Science		225 (13.8)	261 (15.1)	299 (15.5)	301 (15.9)	227 (12.3)	189 (11.2)	203 (11.9)	224 (12.3)	231 (12.8)	191 (11.0)	
Health Sciences		102 (6.3)	151 (8.8)	178 (9.2)	153 (8.1)	122 (6.6)	105 (6.2)	105 (6.2)	125 (6.9)	134 (7.4)	137 (7.9)	
Mathematics and Physical Sciences		528 (32.5)	524 (30.4)	557 (28.9)	474 (25.0)	422 (22.9)	380 (22.4)	369 (21.7)	385 (21.2)	322 (17.9)	334 (19.3)	
Sub-total Sciences		1,131 (69.6)	1,176 (68.2)	1,284 (66.6)	1,175 (62.0)	1,012 (55.0)	873 (51.6)	905 (53.2)	973 (53.5)	911 (50.5)	872 (50.4)	
Total		1,625 (100.0)	1,724 (100.0)	1,929 (100.0)	1,896 (100.0)	1,840 (100.0)	1,693 (100.0)	1,702 (100.0)	1,819 (100.0)	1,803 (100.0)	1,731 (100.0)	

Note: Percentages in brackets indicate distribution by field of study.

in the early seventies to virtually 50% in 1980.

The decline in the four science fields was particularly marked in mathematics and the physical sciences which dropped from 32. to less than 20% of the total. The number of men earning science doctorates decreased from 1,187 in 1972-73 to a low of 733 in 1980 (Table 7). By contrast, the number of science Ph.D.'s awarded to women grew from 45 to 127.

Since foreign students make up a growing proportion of the doctoral graduates in some science disciplines (in recent years about one-third of the total), the number of Canadian citizens and permanent residents earning science doctorates has declined even more than aggregate figures seem to indicate. As at the master's level, the estimated number of foreign graduates has been subtracted from total doctoral degrees (Tables A-8 and A-9). The result reveals the decline to have been most pronounced in the sciences where the number of earned doctorates conferred on men fell from 1,045 in 1972-73 to a low of 551 in 1980. At the same time, the number of women earning science Ph.D.'s grew slightly from 85 to 95.

The proportion of female doctoral degree recipients, including foreign graduates, increased from 9.3% of the total in 1969-70 to 23.0% in 1980 (Table 7). In absolute numbers, 151 Ph.D.'s were awarded to women in 1970-71; ten years later the total was 395. By comparison, the number of male Ph.D. graduates reached a high of 1,712 in 1972-73 and has since dropped to 1,324. Nonetheless, men still make up the overwhelming majority in every discipline. Only about 30% of the doctorates in the human sciences were awarded to women in 1980; the percentage in the sciences was just 15%, largely in health and agricultural and biological sciences.

Tables A-10 to A-13 show doctorates in the four professional disciplines - business, engineering and applied sciences,

Table 7

Sex Distribution of Doctoral Degrees, by Field of Study,

Field of Study		1969-70		1970-71		1971-72		1972-73		1973-74		1974		1975		1976		1977		1978		1979		1980		
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%									
Education	Male	62	79.5	72	93.5	97	89.0	99	81.2	111	86.7	122	70.9	111	70.7	131	75.7	118	75.2	137	71.0	124	60.4	124	66.6	
	Female	16	20.5	5	6.5	12	11.0	23	18.8	17	13.3	50	29.1	46	29.3	42	24.3	39	24.8	56	29.0	81	39.6	81	33.4	
	Total	78	100.0	77	100.0	109	100.0	122	100.0	128	100.0	172	100.0	157	100.0	173	100.0	157	100.0	193	100.0	205	100.0	205	100.0	
Fine & Applied Arts		2	66.7	5	83.3	3	50.0	5	100.0	4	100.0	5	71.4	3	60.0	8	72.7	2	28.6	8	72.7	6	66.6	3	33.4	
	Male	1	33.3	1	16.7	3	50.0	—	—	2	28.6	2	40.0	3	27.3	5	71.4	3	27.3	3	27.3	1	33.4	9	100.0	
	Female	3	66.7	6	100.0	6	100.0	5	100.0	4	100.0	7	100.0	5	100.0	11	100.0	7	100.0	11	100.0	9	100.0	9	100.0	
Humanities		112	72.7	141	77.5	162	80.2	183	80.3	198	75.0	216	78.0	161	64.9	170	66.4	180	69.5	196	67.4	163	67.4	163	67.4	
	Male	42	27.3	41	22.5	40	19.8	45	19.7	66	25.0	61	22.0	87	35.1	86	33.6	79	30.5	95	32.6	79	32.6	79	32.6	
	Female	154	100.0	182	100.0	202	100.0	228	100.0	264	100.0	277	100.0	248	100.0	256	100.0	259	100.0	291	100.0	242	100.0	242	100.0	
Social Sciences		142	85.5	193	84.3	197	85.3	238	82.1	254	78.2	299	80.4	326	79.5	272	76.2	296	74.6	298	73.9	298	73.9	298	73.9	
	Male	24	14.5	36	15.7	34	14.7	52	17.9	71	21.8	73	19.6	84	20.5	85	23.8	101	23.6	101	25.4	105	26.1	105	26.1	
	Female	166	100.0	229	100.0	231	100.0	290	100.0	325	100.0	372	100.0	410	100.0	357	100.0	423	100.0	397	100.0	403	100.0	403	100.0	
Sub-total		318	79.3	411	83.2	459	83.8	525	81.4	567	78.6	642	77.5	601	73.3	581	72.9	623	73.6	637	71.4	591	68.8	591	68.8	
Human Sc.		83	20.7	83	16.8	89	16.2	120	18.6	154	21.4	186	22.5	219	26.7	216	27.1	223	26.4	255	28.6	268	31.2	268	31.2	
	Male	401	100.0	494	100.0	548	100.0	645	100.0	721	100.0	828	100.0	820	100.0	797	100.0	846	100.0	892	100.0	859	100.0	859	100.0	
Agriculture		214	91.1	253	91.7	216	90.0	219	87.6	220	89.1	198	82.2	160	80.4	202	88.6	199	83.3	193	86.2	161	76.7	161	76.7	
	Male	21	8.9	23	8.3	24	10.0	31	12.4	27	10.9	43	17.8	39	19.6	26	11.4	40	16.7	31	13.8	49	23.3	49	23.3	
	Female	235	100.0	276	100.0	240	100.0	250	100.0	247	100.0	241	100.0	199	100.0	228	100.0	239	100.0	224	100.0	224	100.0	210	100.0	
Engineering		188	100.0	225	100.0	260	99.6	289	96.7	297	98.7	218	96.0	178	94.2	201	99.0	217	96.9	222	96.1	174	97.2	174	97.2	
	Male	87	91.6	91	89.2	128	84.8	145	81.5	132	86.3	97	79.5	84	80.0	78	74.3	97	77.6	91	67.9	92	67.2	92	67.2	
	Female	8	8.4	11	10.8	23	15.2	33	18.5	21	13.7	25	20.5	21	20.0	27	25.7	28	22.4	43	32.1	45	32.8	45	32.8	
	Total	95	100.0	102	100.0	151	100.0	178	100.0	153	100.0	474	100.0	105	100.0	105	100.0	125	100.0	134	100.0	137	100.0	137	100.0	
Health Sciences		440	96.5	494	93.6	501	95.6	534	95.9	446	94.1	390	92.4	352	92.6	334	90.5	352	91.4	287	90.2	306	91.6	306	91.6	
	Male	16	3.5	34	6.4	23	4.4	23	4.1	28	5.9	32	7.6	28	7.4	35	9.5	33	8.6	31	9.8	28	8.4	28	8.4	
	Female	456	100.0	528	100.0	524	100.0	557	100.0	474	100.0	422	100.0	380	100.0	369	100.0	385	100.0	385	100.0	385	100.0	385	100.0	
Math. & Phys. Sciences		929	95.4	1,063	94.0	1,105	94.0	1,187	92.4	1,095	93.2	903	89.2	774	88.7	815	90.1	865	88.9	793	87.4	733	85.2	733	85.2	
	Male	68	6.0	71	6.0	97	7.6	80	6.8	109	10.8	99	11.3	90	9.9	108	11.1	114	12.6	127	14.8	127	14.8	127	14.8	
	Female	45	4.6	1,131	100.0	1,176	100.0	1,284	100.0	1,175	100.0	1,012	100.0	873	100.0	905	100.0	973	100.0	907	100.0	907	100.0	907	100.0	
Sub-total		Male	1,247	90.7	1,474	90.7	1,564	90.7	1,712	88.8	1,662	87.7	1,544	83.9	1,375	81.2	1,396	82.0	1,488	81.8	1,430	79.5	1324	77.0	1324	77.0
	Female	128	9.3	151	9.3	160	9.3	217	11.2	234	12.3	296	16.1	318	18.8	306	18.0	331	18.2	369	20.5	395	23.0	395	23.0	
	Total	1,375	100.0	1,625	100.0	1,724	100.0	1,929	100.0	1,896	100.0	1,840	100.0	1,693	100.0	1,702	100.0	1,819	100.0	1,799	100.0	1,799	100.0	1,799	100.0	

law, and fine and applied arts - as a percentage of total doctorates.⁽⁴⁾ From 1969-70 to 1979 business represented just 0.8% of the doctorates granted to men and 0.2% of those earned by women. Only four women earned business Ph.D.'s during this period (Table A-10). Doctorates in engineering constitute 15.4% of all Ph.D.'s granted to men, 2.1% of those granted to women (Table A-11). Over the same period only 56 men and 12 women received doctorates in law (Table A-12). Women accounted for 20 of the 65 Ph.D.'s in fine and applied arts (Table A-13). This field represented 0.8% of all doctoral degrees awarded to women (0.3% for men).

Statistical Indicators of Graduate Output

Absolute numbers and percentage increases alone are somewhat simplistic. A number of other statistics have been calculated to improve the picture of Canada's output of university graduates:

- graduation index
- graduation rate
- graduate degrees as a percentage of undergraduate degrees
- completion rate

None of these measures, however, should be considered in isolation. It is necessary to look at both the raw data and the indicators that have been developed in order to understand trends in university graduation.

1) Graduation Index

Table 8 is an index of the growth of bachelor's and first professional degrees, using 1970-71 as a base of 100.0. It reveals a much more rapid growth rate among women than men. The total number of women reached a high (169.3) in 1978, and then declined slightly (167.1) in the next two years. The number of men peaked in 1978 (110.9), and by 1980 had dropped

(4) In any year, the absolute number of doctoral degrees awarded (except for engineering) in a single discipline is small. Therefore, no clear pattern emerges.

Table 8

Index of Growth, Bachelor's and First Professional Degrees
by Sex, 1970-71 to 1980

Year	M A L E		F E M A L E		T O T A L	
	Number of Degrees	Index	Number of Degrees	Index	Number of Degrees	Index
1970-71	41,501	100.0	25,557	100.0	67,058	100.0
1971-72	43,873	105.7	28,543	111.7	72,416	108.0
1972-73	42,565	102.6	28,099	109.9	70,664	105.4
1974	43,784	105.5	31,067	121.6	74,851	111.6
1975	44,904	108.2	35,850	140.3	80,754	120.4
1976	44,746	107.8	38,546	150.8	83,292	124.2
1977	45,721	110.2	41,635	162.9	87,356	130.3
1978	46,011	110.9	43,271	169.3	89,282	133.1
1979	44,302	106.7	42,828	167.6	87,130	129.9
1980	43,525	104.9	42,718	167.1	86,243	128.6

back to close to what it had been at the beginning of the decade.

An index can also be used to illustrate wide variations in the output of individual disciplines (Table 9). The index for male graduates of education, the humanities, and mathematics and the physical sciences remained stable or actually declined. At the same time the index for female graduates grew to 266.2 in the social sciences, to 185.3 in the health sciences, and to 165.1 in mathematics and the physical sciences. Based on current enrolment, this trend is apt to continue, and in the eighties the total number of women receiving bachelor's or first professional degrees will exceed that of men. The rise of female enrolment can be illustrated with an index using 1970-71 as a base (Table 10). The index for men reached a high of 108.8 in 1975-76 and fell to 105.0 in 1980-81. The index for women in all fields of study grew continuously during these 10 years to 154.0. This increase was particularly spectacular in job-oriented fields such as business, law, engineering, dentistry, and medicine (966.4, 403.9, 778.9, 448.9, and 339.3).

In contrast the index for men declined to 75.9 in arts, 67.9 in education, 95.1 in law, and 93.6 in the sciences. These 1980-81 enrolment patterns will be reflected in the increasing share of bachelor's degrees awarded to women in the mid-1980's. They will be particularly evident in fields such as engineering, law and business where women are under-represented but make up an increasing share of enrolment. At present, women graduate primarily from fields for which there is less labour market demand, for example, education, art history, the humanities, and some of the social sciences.

Index of Growth, Bachelor's and First Professional Degrees,
by Field of Study and Sex, 1970-71 to 1980

Field of Study		1970-71	1971-72	1972-73	1974	1975	1976	1977	1978	1979	1980
Education	Male	100.0	102.0	106.3	95.5	103.3	102.1	100.9	93.3	82.8	72.5
	Female	100.0	109.7	106.6	103.0	134.1	149.7	152.9	156.6	150.4	143.0
	Total	100.0	106.1	106.4	99.4	119.6	127.2	128.4	126.7	118.5	109.7
Fine and Applied Arts	Male	100.0	99.8	114.6	132.5	166.5	173.6	163.5	201.3	178.9	117.9
	Female	100.0	126.8	144.0	187.5	209.1	227.4	254.6	289.2	255.2	268.4
	Total	100.0	114.6	130.7	162.7	189.9	203.1	213.5	249.5	220.8	227.6
Humanities	Male	100.0	100.5	98.9	101.5	97.4	93.2	96.8	88.2	82.6	80.5
	Female	100.0	109.9	108.8	124.2	133.2	133.8	144.2	142.2	136.0	135.8
	Total	100.0	104.9	103.5	112.2	114.2	112.3	119.1	113.6	107.7	106.5
Social Sciences	Male	100.0	105.1	105.4	115.3	120.4	122.4	127.3	131.8	129.4	127.9
	Female	100.0	117.8	123.8	156.0	182.4	195.5	230.3	249.1	259.3	266.2
	Total	100.0	108.5	110.2	126.1	136.8	141.8	154.5	162.8	163.8	164.5
Sub-total Human Sciences	Male	100.0	103.2	104.6	107.2	111.9	111.9	114.5	113.6	107.8	103.6
	Female	100.0	112.4	112.8	124.6	148.8	160.3	174.1	181.3	178.3	176.9
	Total	100.0	107.0	108.0	114.4	127.2	131.9	139.1	141.5	136.9	133.9
Agriculture & Biological Sciences	Male	100.0	114.4	112.5	128.2	143.3	168.8	173.9	174.2	150.8	143.2
	Female	100.0	116.9	113.7	160.0	191.3	218.9	237.3	242.9	226.4	226.9
	Total	100.0	115.4	113.0	140.7	162.1	188.4	198.7	201.1	180.4	176.0
Engineering & Applied Sciences	Male	100.0	105.5	104.6	105.2	107.0	105.7	115.9	128.9	142.6	154.1
	Female	100.0	172.5	170.6	184.3	251.0	333.3	498.0	762.7	919.6	1,084.3
	Total	100.0	106.3	105.4	106.1	108.7	108.4	120.3	136.2	151.5	164.9
Health Professions	Male	100.0	106.6	105.8	129.9	124.0	130.4	128.5	124.2	122.3	120.6
	Female	100.0	99.0	113.4	130.8	145.5	159.8	173.6	176.7	183.1	185.3
	Total	100.0	102.9	109.5	130.3	134.5	144.7	150.4	149.7	151.9	152.1
Mathematics & Physical Sciences	Male	100.0	104.7	101.0	102.0	101.8	95.8	99.6	102.1	99.0	100.1
	Female	100.0	117.0	117.8	124.4	117.6	120.4	131.3	140.2	160.5	165.1
	Total	100.0	107.1	104.3	106.4	104.8	100.6	105.7	109.5	110.9	112.7
Sub-total Sciences	Male	100.0	107.0	105.1	112.4	114.5	117.7	123.2	128.3	128.5	131.7
	Female	100.0	109.1	115.1	139.5	155.9	173.0	189.7	198.1	202.0	206.4
	Total	100.0	107.5	107.7	119.3	125.0	131.8	140.1	146.0	147.2	150.7
No Specialization	Male	100.0	114.1	88.5	84.3	79.2	69.9	65.2	64.1	58.7	56.7
	Female	100.0	111.1	94.3	94.4	93.5	94.8	96.4	97.8	96.3	95.2
	Total	100.0	112.8	91.1	88.7	85.5	80.9	79.0	78.9	75.3	73.7
Total	Male	100.0	105.7	102.6	105.5	108.2	107.8	110.2	110.9	106.7	104.9
	Female	100.0	111.7	109.9	121.6	140.3	150.8	162.9	169.3	167.6	167.1
	Total	100.0	108.0	105.4	111.6	120.4	124.2	130.3	133.1	129.9	128.6

Table 10

Index of Growth, Full-time Undergraduate Enrolment, by Field of Study and Sex, 1970-71 to 1980-81

Field of Study	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Arts	M 100.0	98.0	89.2	88.7	88.5	91.4	87.9	83.4	78.6	75.9	75.9
	F 100.0	103.4	94.8	97.7	102.1	109.6	112.9	111.5	105.8	108.9	111.7
	T 100.0	100.4	91.7	92.7	94.6	99.5	99.0	95.9	91.7	90.6	91.9
Commerce & Business Administration	M 100.0	115.6	124.2	137.1	143.7	154.3	157.9	160.6	164.7	174.7	186.1
	F 100.0	163.7	209.9	266.4	308.4	382.9	492.1	590.5	685.3	818.3	966.4
	T 100.0	120.6	133.0	150.3	160.5	177.7	192.0	204.6	217.9	240.5	265.9
Education	M 100.0	102.1	92.9	94.9	94.0	102.4	100.2	92.5	80.7	71.8	67.9
	F 100.0	99.8	97.4	103.6	112.8	128.5	137.8	134.0	123.3	116.5	114.9
	T 100.0	100.8	95.4	99.8	104.6	117.1	121.4	115.9	104.7	97.0	94.4
Fine & Applied Arts	M 100.0	146.9	161.4	175.8	182.9	191.9	198.8	193.9	194.1	194.5	198.7
	F 100.0	130.9	168.3	186.3	200.8	226.5	231.5	236.0	237.2	236.1	242.9
	T 100.0	137.8	165.4	181.8	193.1	211.5	217.4	217.8	218.6	218.1	223.8
Law	M 100.0	104.4	105.3	106.4	101.2	102.9	103.1	101.4	99.1	96.7	95.1
	F 100.0	125.3	159.2	186.3	216.3	257.6	300.1	329.3	349.6	379.6	403.9
	T 100.0	107.1	112.2	116.6	115.8	122.6	128.2	130.4	130.9	132.7	134.4
Religion and Theology	M 100.0	80.2	72.6	68.2	72.5	73.0	77.1	72.4	70.1	95.9	100.9
	F 100.0	103.8	116.9	114.7	116.1	120.9	139.2	99.7	114.8	115.0	137.6
	T 100.0	85.8	83.1	79.2	82.8	84.3	91.8	78.9	80.7	100.4	109.6
Sub-total Human Sciences	M 100.0	102.6	97.5	99.8	100.5	105.5	103.9	100.1	95.8	94.6	95.8
	F 100.0	105.1	102.3	108.3	115.7	128.3	136.5	137.0	134.3	136.3	141.8
	T 100.0	103.7	99.5	103.4	107.0	115.2	117.8	115.8	112.2	112.4	115.4
Sciences	M 100.0	98.5	102.5	104.4	100.6	99.2	95.3	92.3	87.8	90.3	93.6
	F 100.0	109.5	122.4	127.6	137.6	147.1	150.7	152.5	151.9	158.3	162.6
	T 100.0	101.6	108.0	110.9	112.6	110.8	109.1	105.7	109.3	112.9	112.9
Agriculture	M 100.0	92.0	78.9	86.7	98.9	102.6	113.1	109.9	103.1	95.1	91.7
	F 100.0	118.8	125.7	180.5	246.8	306.7	367.9	427.2	447.8	420.6	431.6
	T 100.0	94.8	83.8	96.5	114.4	124.0	139.8	143.1	139.1	129.1	127.3
Environmental Studies	M N/A	N/A	N/A	N/A	100.0	108.8	137.4	151.4	143.5	174.8	184.7
	F N/A	N/A	N/A	N/A	100.0	129.8	161.7	218.3	224.7	265.5	297.4
	T N/A	N/A	N/A	N/A	100.0	114.1	143.5	168.2	163.9	197.5	213.0
Engineering & Applied Sciences	M 100.0	103.0	99.0	99.3	105.7	115.3	121.4	128.0	131.1	133.9	136.9
	F 100.0	136.9	141.1	182.5	267.5	360.1	460.8	553.4	626.2	697.3	778.9
	T 100.0	103.6	99.8	100.8	108.6	119.8	127.7	135.8	140.2	144.2	148.8
Dentistry	M 100.0	106.3	107.9	110.3	106.0	106.9	106.5	106.0	105.6	104.2	101.4
	F 100.0	145.7	166.3	181.5	233.7	271.7	327.2	369.6	382.6	406.5	448.9
	T 100.0	108.5	111.1	114.2	113.1	116.1	118.8	120.7	121.0	121.1	120.8
Medicine	M 100.0	107.5	112.8	114.3	131.5	137.2	139.3	135.9	136.2	134.2	133.3
	F 100.0	123.4	146.5	165.7	210.8	231.1	268.2	286.4	303.1	312.5	339.3
	T 100.0	110.4	118.9	123.6	145.8	154.2	162.7	163.2	166.4	166.5	170.6
Miscellaneous Health	M 100.0	130.4	103.0	107.6	70.8	87.6	107.7	100.0	99.7	93.5	90.6
	F 100.0	108.6	104.4	118.8	113.6	123.5	133.4	133.7	131.9	131.9	133.4
	T 100.0	113.8	104.0	116.1	103.4	114.9	127.3	125.6	124.2	122.8	123.2
Nursing	M 100.0	108.8	98.9	118.7	137.4	191.2	192.3	158.2	168.1	174.7	186.8
	F 100.0	107.9	110.9	116.2	130.4	145.3	139.6	132.3	129.9	131.0	132.0
	T 100.0	107.9	110.7	116.3	130.6	146.2	140.7	132.8	130.7	132.0	133.1
Pharmacy	M 100.0	103.4	108.3	106.4	103.8	100.8	102.7	99.9	95.3	95.6	94.9
	F 100.0	118.7	137.6	142.1	151.8	160.2	162.9	168.8	170.1	175.0	173.1
	T 100.0	110.9	122.7	123.9	127.3	129.9	132.2	133.7	132.0	134.5	133.2
Household Sciences	M 100.0	180.0	490.0	565.0	645.0	480.0	455.0	455.0	310.0	480.0	485.0
	F 100.0	115.3	128.0	148.0	149.4	144.6	129.6	123.8	114.4	117.9	111.9
	T 100.0	115.7	130.5	150.8	152.8	146.9	131.9	126.0	115.8	120.4	114.4
Veterinary Medicine	M 100.0	107.1	112.4	110.3	112.9	113.4	106.9	101.3	100.0	96.0	86.2
	F 100.0	148.8	183.7	240.7	281.4	343.0	390.7	448.8	536.0	545.3	548.8
	T 100.0	112.2	121.1	126.2	133.4	141.3	141.4	143.6	153.0	150.6	142.4
Sub-total Sciences	M 100.0	106.9	101.3	102.9	105.3	108.7	109.8	110.1	108.4	110.4	112.8
	F 100.0	111.6	122.1	131.7	145.0	156.9	161.9	165.4	166.2	172.1	177.0
	T 100.0	103.7	106.8	110.5	115.8	121.4	123.5	124.7	123.7	126.7	129.8
Unclassified	M 100.0	174.5	305.1	255.9	405.6	506.1	447.4	432.9	441.4	409.0	483.5
	F 100.0	105.6	207.1	212.9	390.1	459.7	354.5	362.3	434.4	440.3	545.6
	T 100.0	142.8	260.1	236.1	398.5	484.8	404.7	400.4	438.1	423.4	512.1
Total	M 100.0	102.2	100.1	101.9	104.1	108.8	108.1	106.0	102.9	102.9	105.0
	F 100.0	106.8	108.3	115.2	125.4	138.3	144.8	146.1	144.9	147.9	154.0
	T 100.0	103.9	103.1	106.8	111.9	119.6	121.6	120.7	118.3	119.4	123.0

Table 11 applies the index of growth to master's degrees. Here the number of women increased even faster than at the bachelor's level, as the index had reached 255.6 by 1980. On the other hand, the index for men peaked in 1977 at 128.0 and has since declined to 117.1.

A combined index for bachelor's, master's and doctoral degrees shows a continual rise for women (Table 12). Whereas the index of male graduates reached a high of 110.9 in 1978, it has since declined, but the index for women reached nearly uninterrupted growth to 171.7 in 1980. In each of the last four years (1977 to 1980) more than 100,000 degrees were conferred at Canadian universities. This level will be maintained for at least the next four or five years.⁽⁵⁾

2) Graduation Rate

The increasing number of degrees awarded during the sixties and seventies has reflected the growing source population, the 20-29 age group. This age group has been chosen for calculating the graduation rate because the majority of graduates are of these ages. The population in this age range nearly doubled from 2.4 million in 1960-61 to 4.3 million in 1980 (Table 13). The proportion of 18-24-year-olds attending university (enrolment rate) also grew: from 6.7% in 1960-61 to 11.4% in 1979-80.

The graduation rate is the total number of degrees awarded (bachelor's or first professional, master's and doctoral) expressed as a percentage of the 20-29 age group. As Table 13 shows, the rate for men increased rapidly during the sixties to a high of 3.1% in 1971-72 and has since fallen to 2.4%. The women's rate grew from 5% to 2.3% in 1978, but levelled off to

(5) Table A-18 gives enrolment by field of study up to an including 1980-81. This information can be used to project the number of degrees granted. It is significant that 1981-82 full-time enrolment is about 5% higher than the year before.

Table 11

Index of Growth, Master's Degrees, by Sex,
1970-71 to 1980

Year	M A L E		F E M A L E		T O T A L	
	Number of Degrees	Index	Number of Degrees	Index	Number of Degrees	Index
1970-71	6,640	100.0	1,821	100.0	8,461	100.0
1971-72	7,516	113.2	2,122	116.5	9,638	113.9
1972-73	7,715	116.2	2,543	139.6	10,258	121.2
1973-74	7,778	117.1	2,852	156.6	10,630	125.6
1974	7,426	111.8	2,770	152.1	10,196	120.5
1975	7,950	119.7	3,118	171.2	11,068	130.8
1976	8,030	120.9	3,525	193.6	11,555	136.6
1977	84,98	128.0	3,877	212.9	12,375	146.3
1978	8,486	127.8	4,151	228.0	12,637	149.4
1979	7,903	119.0	4,448	244.3	12,351	146.0
1980	7,778	117.1	4,654	255.6	12,432	146.9

Table 12

Index of Growth, Bachelor's and First Professional, Master's and Doctoral Degrees, by Sex, 1960-61 to 1980

Year	Male		Female		Total	
	Number of degrees	Index	Number of degrees	Index	Number of degrees	Index
1960-61	16,842 (75.4)	33.4	5,489 (24.6)	19.8	22,331 (100.0)	28.5
1961-62	18,887 (73.8)	37.5	6,711 (26.2)	24.1	25,598 (100.0)	32.7
1962-63	20,660 (73.5)	40.9	7,455 (26.5)	26.8	28,115 (100.0)	35.9
1963-64	23,621 (72.9)	46.8	8,760 (27.1)	31.5	32,381 (100.0)	41.4
1964-65	26,419 (71.0)	52.3	10,783 (29.0)	38.8	37,202 (100.0)	47.5
1965-66	29,780 (69.2)	59.0	13,246 (30.8)	47.6	43,026 (100.0)	55.0
1966-67	33,428 (67.8)	66.2	15,843 (32.2)	57.0	49,271 (100.0)	62.9
1967-68	37,104 (66.8)	73.5	18,432 (33.2)	66.3	55,536 (100.0)	70.9
1968-69	41,001 (65.2)	81.2	21,837 (34.8)	78.5	62,838 (100.0)	80.3
1969-70	45,149 (64.2)	89.5	25,183 (35.8)	90.5	70,332 (100.0)	89.8
1970-71	50,468 (64.5)	100.0	27,818 (35.5)	100.0	78,286 (100.0)	100.0
1971-72	53,162 (63.0)	105.3	31,255 (37.0)	112.4	84,417 (100.0)	107.8
1972-73	52,034 (62.5)	103.1	31,162 (37.5)	112.0	83,196 (100.0)	106.3
1974	52,872 (60.8)	104.8	34,071 (39.2)	122.5	86,943 (100.0)	111.1
1975	54,397 (58.1)	107.8	39,264 (41.9)	141.1	93,661 (100.0)	119.6
1976	54,151 (56.1)	107.3	42,389 (43.9)	152.4	96,540 (100.0)	123.3
1977	55,615 (54.8)	110.2	45,818 (45.2)	164.7	101,433 (100.0)	129.6
1978	55,985 (54.0)	110.9	47,753 (46.0)	171.7	103,738 (100.0)	132.5
1979	53,639 (53.0)	106.3	47,645 (47.0)	171.3	101,284 (100.0)	129.4
1980	52,642 (52.4)	104.3	47,771 (47.6)	171.7	100,413 (100.0)	128.3

Note: Percentages in brackets show distribution by sex.

Table 13

Degrees Granted as a Percentage of the Population
Aged 20-29, by Sex, 1960-61 to 1980

Year	Male	Male 20-29 Age Group	Female	Female 20-29 Age Group	Total	Total 20-29 Age Group
		('000)		('000)		('000)
1960-61	16,842 (1.4)	1,208	5,489 (0.5)	1,187	22,331 (0.9)	2,394.4
1961-62	18,887 (1.6)	1,201	6,711 (0.6)	1,192	25,598 (1.1)	2,392.9
1962-63	20,660 (1.7)	1,209	7,455 (0.6)	1,205	28,115 (1.2)	2,413.6
1963-64	23,621 (1.9)	1,226	8,760 (0.7)	1,226	32,381 (1.3)	2,451.8
1964-65	26,419 (2.1)	1,255	10,783 (0.9)	1,258	37,202 (1.5)	2,512.6
1965-66	29,780 (2.3)	1,292	13,246 (1.0)	1,298	43,026 (1.7)	2,595.8
1966-67	33,428 (2.5)	1,347	15,843 (1.2)	1,357	49,271 (1.8)	2,703.1
1967-68	37,104 (2.6)	1,426	18,432 (1.3)	1,426	55,536 (1.9)	2,852.1
1968-69	41,001 (2.7)	1,509	21,837 (1.5)	1,501	62,838 (2.1)	3,009.1
1969-70	45,149 (2.8)	1,590	25,183 (1.6)	1,577	70,332 (2.2)	3,167.3
1970-71	50,468 (3.0)	1,669	27,818 (1.7)	1,656	78,286 (2.4)	3,326.2
1971-72	53,162 (3.1)	1,743	31,255 (1.8)	1,731	84,417 (2.4)	3,473.5
1972-73	52,034 (2.9)	1,796	31,162 (1.7)	1,790	83,196 (2.3)	3,585.7
1974	52,872 (2.9)	1,854	34,071 (1.9)	1,845	86,943 (2.4)	3,699.2
1975	54,397 (2.8)	1,929	39,264 (2.0)	1,921	93,661 (2.4)	3,848.0
1976	54,151 (2.7)	2,006	42,389 (2.1)	1,997	96,540 (2.4)	4,003.3
1977	55,615 (2.7)	2,066	45,818 (2.2)	2,061	101,433 (2.5)	4,126.9
1978	55,985 (2.7)	2,104	47,753 (2.3)	2,099	103,738 (2.5)	4,203.0
1979	53,639 (2.5)	2,140	47,645 (2.2)	2,131	101,284 (2.4)	4,270.3
1980	52,642 (2.4)	2,181	47,771 (2.2)	2,165	100,413 (2.3)	4,346.3

2.2% in the last two years.

Over the next decade and a half, the traditional source population for university enrolment, the 18-24 age group, will decline. This makes the enrolment rate a more vital factor in determining the eventual number of university graduates. 1980-81 and 1981-82 saw an upturn in the enrolment rate for both sexes. As a result, in three or four years the number of degrees granted will be larger than it is now. This has implications for the labour market of the future.

Graduate Degrees as a Percentage of Undergraduate Degrees

By expressing the number of master's degrees and doctorates awarded in any year as a percentage of bachelor's and first professional degrees, it is possible to determine the extent to which students are proceeding to graduate studies. Table 14 shows that for men at the master's level this percentage stabilized around 18% during the seventies. The proportion for women took a sharp upturn in 1972-73 that was followed by a decline, but since 1976 it has risen steadily. Yet by 1980, the number of women earning master's degrees in relation to the number graduating at the bachelor's level was still less than the percentage men had achieved 20 years earlier.

The same patterns are evident at the doctoral level, although the percentages are much smaller. The proportion for men fell from a high of 4% in 1972-73 to about 3%. The figures for women indicate a gradual increase. In the sixties, for every 200 women who received a bachelor's or first professional degree, only 1 earned a doctorate. The number has risen to almost 1 for every 100.

Table 14

Master's and Doctoral Degrees as a Percentage of Bachelor's and First Professional Degrees, by Sex, 1960-61 to 1980

Year	Master's			Doctoral		
	Male	Female	Total	Male	Female	Total
(Percent)						
1960-61	12.8	6.9	11.3	1.9	0.5	1.5
1961-62	12.2	6.6	10.7	1.8	0.4	1.4
1962-63	12.5	7.2	11.0	2.1	0.5	1.7
1963-64	12.6	6.9	11.0	2.2	0.5	1.7
1964-65	12.6	6.8	10.8	2.2	0.5	1.7
1965-66	14.4	6.6	11.8	2.4	0.6	1.8
1966-67	14.8	7.1	12.2	2.5	0.4	1.8
1967-68	14.5	6.7	11.8	2.9	0.6	2.1
1968-69	15.9	7.7	12.9	3.0	0.4	2.0
1969-70	17.7	7.8	13.9	3.3	0.6	2.3
1970-71	18.1	8.3	14.3	3.6	0.6	2.4
1971-72	17.6	8.9	14.2	3.6	0.6	2.4
1972-73	18.2	10.1	15.0	4.0	0.8	2.7
1974	17.0	8.9	13.6	3.8	0.8	2.5
1975	17.7	8.7	13.7	3.4	0.8	2.3
1976	17.9	9.1	13.9	3.1	0.8	2.0
1977	18.6	9.3	14.2	3.1	0.7	1.9
1978	18.4	9.6	14.2	3.2	0.8	2.0
1979	17.8	10.4	14.2	3.2	0.9	2.1
1980	17.9	10.9	14.4	3.1	0.9	2.0

Completion Rate

The relationship of degrees to enrolment, in other words the completion rate, can serve as another crude indicator of productivity and as a guide for estimating the annual number of degrees that will be awarded.

In Table 15, total bachelor's degrees⁽⁶⁾ granted between 1974 and 1980 are expressed as a percentage of total full-time enrolment between 1971-72 and 1977-78. Overall, degrees amounted to more than a quarter (27%) of enrolment. However, the probability of graduating in the human sciences was much greater than in the sciences (29% versus 18%), suggesting higher withdrawal rates and longer periods of study. But the proportion varied by sex: the female average was 31% and the male, 24%. Whatever the field, the percentage of women who graduated was higher than that of men. This pre-eminence of women is contrary to the pattern for graduate degrees, which is discussed below. Since female undergraduate enrolment is still expanding, there will be an increase in women holding bachelor's degrees. Implications of this potential growth in supply have not been adequately explored.

For a ten-year period, 1970-71 to 1979-80, full- and part-time master's and doctoral enrolment have been related to master's and doctoral degrees awarded in selected disciplines (Table 16 and 17). Summary tables for the ten years are shown in the text; individual years are presented in Appendix Tables A-14 and A-15.

Master's degrees, as a percentage of full- and part-time enrolment show considerable variations among the disciplines from 15.8% in

(6) Includes graduates who had studied part-time. Therefore, the completion rate is somewhat overstated. Moreover, such a completion rate is artificial because it relates enrolment data to degrees awarded without taking into account the length of program. This qualification applies to the three levels of degrees.

Table 15

Bachelor's and First Professional Degrees as a Percentage of Full-time Undergraduate Enrolment,
by Field of Study and Sex During the Seventies

Field of Study	Total Enrolment, 1971-72 to 1977-78			Total Degrees, 1974 to 1980			Degrees as % of Enrolment		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Education*	114,092	176,824	290,916	47,330	80,454	127,784	41.5	45.5	43.9
Fine and Applied Arts*	29,450	42,696	72,146	6,282	10,808	17,090	21.3	25.3	23.7
Sub-total Human Sciences	708,131	616,391	1,324,522	189,088	197,395	386,483	26.7	32.0	29.2
Engineering and Applied Sciences*	194,696	9,965	204,661	37,600	2,057	39,657	19.3	20.6	19.4
Sub-Total Sciences	549,006	264,834	813,840	96,970	48,787	145,757	17.7	18.4	17.9
Total	1,283,226	896,812	2,176,065	312,993	275,915	588,908	24.4	30.8	27.1

* Included in the sub-totals.

Table 16

Master's Degrees as a Percentage of Full- and Part-time Master's Enrolment,
by Discipline and Sex, Ten-Year Total (1970-71 to 1979-80)

Field and Discipline of Study	Degrees as % of enrolment			Field and Discipline of Study	Degrees as % of enrolment		
	Male	Female	Total		Male	Female	Total
<u>Education</u>	28.4	22.9	25.8	<u>Engineering</u>	29.2	18.1	28.2
<u>Fine and Applied Arts</u>	23.4	20.9	21.3	<u>Health Sciences</u>	25.9	26.5	26.2
<u>Humanities</u>				<u>Mathematics & Physical Sci.</u>			
Classics	41.1	28.5	35.8	Mathematics	38.3	30.8	36.3
English	34.0	29.5	30.6	Chemistry	31.0	25.4	28.3
French	26.5	24.8	25.6	Geology	25.7	18.0	24.6
Other Languages & Literature	32.4	28.4	29.5	Physics	39.2	34.8	37.8
History	26.0	21.3	23.9				
Philosophy	27.6	21.8	25.4	<u>Sub-total Mathematics & Physical Sciences</u>	34.3	24.9	31.6
Religious Studies	27.2	16.4	24.1				
<u>Sub-total Humanities</u>	29.7	29.6	29.0	<u>Total Sciences</u>	30.3	24.1	28.6
<u>Social Sciences</u>							
Anthropology	21.5	16.1	18.9				
Management & Admin. Studies	30.8	22.5	26.0				
Economics	35.0	31.1	33.8				
Geography	21.9	17.9	21.0	<u>Grand Total</u>	29.1	25.4	27.4
Law	17.3	10.1	15.8				
Political Science	24.8	18.7	22.8				
Psychology	35.1	28.8	31.3				
Social Work	44.7	48.6	46.9				
Sociology	23.2	20.8	21.8				
<u>Sub-total Social Sciences</u>	29.1	26.1	27.8				
<u>Total Human Sciences</u>	29.0	25.9	27.4				
<u>Agriculture and Bio. Sciences</u>							
Agriculture	34.5	23.3	32.2				
Biology, Botany & Zoology	27.7	22.2	25.7				
<u>Sub-total Agriculture & Biological Sciences</u>	28.9	23.2	26.9				

Table 17

Doctorates as a Percentage of Full- and Part-time Doctoral Enrolment,
by Discipline and Sex, Ten-Year Total (1970-71 to 1979-80)

Field and Discipline of Study	Degrees as % of enrolment			Field and Discipline of Study	Degrees as % of enrolment		
	Male	Female	Total		Male	Female	Total
<u>Education</u>	12.6	7.4	10.9	<u>Engineering</u>			
<u>Fine and Applied Arts</u>	8.7	4.9	7.0	<u>Health Sciences</u>			
<u>Humanities</u>				<u>Mathematics & Physical Sci.</u>			
Classics	9.3	6.2	8.2	Mathematics	15.8	11.6	15.3
English	10.3	6.8	8.7	Chemistry	24.4	17.4	23.5
French	7.2	5.9	6.6	Geology	16.8	10.6	16.5
Other Languages & Literature	9.5	7.4	8.5	Physics	21.3	16.0	20.9
History	9.7	6.7	8.9				
Philosophy	8.9	7.0	8.5	<u>Sub-total Mathematics & Physical Sciences</u>	20.5	14.5	19.9
Religious Studies	8.7	6.1	8.3	<u>Total Sciences</u>	20.4	14.5	19.7
<u>Sub-total Humanities</u>	9.2	6.6	8.3				
<u>Social Sciences</u>							
Anthropology (incl. Arch.)	7.9	4.9	6.8				
Management & Admin. Studies	9.3	3.3	8.9				
Economics	8.1	5.9	7.8				
Geography	12.1	7.4	11.6	<u>Grand Total</u>	14.8	8.4	13.3
Law	11.7	11.7	11.7				
Political Science	6.4	4.9	6.2				
Psychology	13.0	7.9	10.8				
Social Work	10.4	6.8	8.9				
Sociology	7.6	5.8	7.0				
<u>Sub-total Social Sciences</u>	10.0	6.9	9.1				
<u>Total Human Sciences</u>	10.1	6.8	9.1				
<u>Agriculture and Bio. Sciences</u>							
Agriculture	22.3	12.7	21.2				
Biology, Botany & Zoology	21.5	14.4	20.1				
<u>Sub-total Agriculture & Biological Sciences</u>	22.4	14.9	21.0				

law to 46.9% in social work. Earned doctorates related to enrolment exhibit similar discrepancies, ranging from 20% to 25% in some of the sciences to less than 10% in most of the human sciences.

These completion rates at the graduate level reveal a phenomenon that requires further analysis. Female master's enrolment rose from 7,707 in 1970-71 to 17,836 ten years later, while male enrolment peaked during the early seventies and has since declined. The corresponding figures for women at the doctoral level are 2,162 in 1970-71 and 3,793 in 1979-80, and the trend of male enrolment was like that of master's degree students. But it appears that in most disciplines the likelihood of men graduating is higher than that of women.

During these ten years, the number of men who earned master's degrees represented about 29% of the male master's enrolment, whereas the figure for women was just over 25%. This divergence was greatest in the sciences (e.g., engineering: 29.2% for men, 18.1% for women). However, in some traditionally female-dominated fields such as social work and several of the health sciences, women had a higher completion rate.

Percentages were lower at the doctoral level - overall about 15% of the men graduated, while the proportion of women remained considerably below 10%. In no discipline did the women's completion rate exceed the men's.

The most obvious reason for these divergent patterns is the unequal impact of family formation on women. Since women account for an increasing share of doctoral recipients, and they have different patterns of labour market participation,⁽⁷⁾ their lower completion rate may be a factor in the inadequate future supply of Ph.D.'s in certain disciplines.

(7) A recent study by the Association of Canadian Medical Colleges has drawn attention to differences in potential labour market behaviour of medical graduates and implications for the supply of health care services.

Table 18

Supply of Doctoral Degrees from Canadian Universities,
1982 to 1986*

Discipline	1980-81			1982			1984			1986			Degrees Granted Each Year 1982-1986
	Full-time Doctoral Students	Full-time Foreign Doctoral Students	Less Foreign Students	Full-time Foreign Students	Less Foreign Students	Withdrawal Rate in Percentage	Full-time Foreign Students	Less Foreign Students	Withdrawal Rate in Percentage	Full-time Foreign Students	Less Foreign Students	Withdrawal Rate in Percentage	
<u>Education</u>	971	148	823	50	412	3	3	137	11				
<u>Fine and Applied Arts</u>	97	11	86	50	43	4							
Classics	47	8	39	30	27	4							
English	486	102	384	50	192	4							
French	148	20	128	50	64	4							
Other Languages	211	39	172	50	86	4							
History	323	45	278	45	153	4							
Library & Records Science	20	4	16	50	8	4							
Linguistics	83	17	66	50	33	4							
Media Studies	26	6	20	50	10	4							
Philosophy	299	86	213	50	107	4							
Religious Studies	172	29	143	50	72	4							
Other Humanities	46	10	33	50	17	4							
<u>Sub-total Humanities</u>	1,861	364	1,497	50	749	4							
						187							
Anthropology & Archeology	196	34	162	50	81	4							
Commerce & Business Admin.	134	24	110	50	55	4							
Economics	468	190	278	50	139	4							
Geography	159	62	97	40	58	4							
Law	31	14	17	50	9	4							
Political Science	215	56	159	55	72	4							
Psychology	807	109	698	50	349	4							
Social Work	39	0	39	50	20	4							
Sociology	287	48	239	50	120	4							
Other Social Sciences	166	82	84	50	42	4							
<u>Sub-total Social Sciences</u>	2,502	620	1,882	50	941	4							
<u>Total Human Sciences</u>	5,431	1,146	4,285	50	2,148	3 to 4							

- 39 -

50

5,431

50

570

Supply of Doctoral Degrees from Canadian Universities,
1982 to 1986*

(cont'd)

Discipline	1980-81			1982 to 1986*			Length of Study in Years	Degrees Granted Each Year 1982-1986
	Full-time Doctoral Students	Foreign Doctoral Students	Less Foreign Students	Full-time Foreign Students	Less Foreign Students	Withdrawal Rate in Percentage		
Agriculture	241	98	143	25	107	3	36	36
Biology	381	80	301	40	181	3	60	60
Botany	63	13	50	40	30	3	10	10
Household Science	24	5	19	50	10	3	3	3
Veterinary Medicine	33	7	26	30	18	3	6	6
Zoology	212	44	168	40	101	3	34	34
Other Agricultural Sciences	100	22	78	20	62	3	21	21
<u>Sub-total Agriculture & Biological Sciences</u>	<u>1,054</u>	<u>265</u>	<u>789</u>	<u>35</u>	<u>513</u>	<u>3</u>	<u>171</u>	<u>171</u>
Chemical Engineering	171	67	104	45	47	3	16	16
Civil Engineering	131	51	80	45	44	3	15	15
Electrical Engineering	206	80	126	45	69	3	23	23
Mechanical Engineering	106	41	65	45	36	3	12	12
Engineering Science	38	15	23	45	13	3	4	4
Forestry	41	16	25	45	14	3	5	5
Other Engineering & Applied Sciences	215	84	131	45	86	3	29	29
<u>Sub-total Engineering & Applied Sciences</u>	<u>908</u>	<u>353</u>	<u>555</u>	<u>45</u>	<u>305</u>	<u>3</u>	<u>104</u>	<u>104</u>
Dentistry	11	1	10	30	7	3	2	2
Medicine	482	63	419	30	293	4	73	73
Pharmacy	38	5	33	30	23	3	8	8
Other Health Sciences	136	18	118	30	83	4	21	21
<u>Sub-total Health Sciences</u>	<u>667</u>	<u>87</u>	<u>580</u>	<u>30</u>	<u>406</u>	<u>3</u>	<u>104</u>	<u>104</u>
Computer Sciences	127	36	91	30	64	3	21	21
Mathematics	243	98	145	30	102	3	34	34
Chemistry	573	210	363	30	254	3	85	85
Geology	175	70	105	45	58	3	19	19
Physics	340	77	263	35	171	3	57	57
Other Mathematics & Physical Sciences	97	34	63	35	41	3	14	14

Table 18
(cont'd)Supply of Doctoral Degrees from Canadian Universities,
1982 to 1986*

(cont'd)

Discipline	1980-81		Full-time		Withdrawal Rate in Foreign Students	Length of Study in Years	Degree Granted Each Year 1982-1985
	Full-time Doctoral Students	Foreign Doctoral Students	Less Foreign Students	Percentage			
Sub-total Mathematics	1,555	541	1,014	35	659	3	220
Total	9,615	2,385	7,230	45	3,977	-	1,169
Not Specified	16	5	11	50	6	3	2
Grand Total	9,631	2,390	7,241	45	3,983	3 to 4	1,171

* Excludes the 3,340 part-time doctoral students who are, in all likelihood, already part of the labour force.

Note: The rationale and methodology for this simulation exercise has been outlined in the following publications: "The Ph.D. Dilemma in Canada: A Case Study", Canadian Higher Education in the Seventies, Economic Council of Canada, May 1972, pp. 75-131; "The Ph.D. Dilemma in Canada Revisited", The Canadian Journal of Higher Education, February 1978, pp. 49-92; Doctoral Enrolment and Graduation Patterns at Canadian Universities During the Seventies: A Statistical Documentation by Discipline, Statistics Canada, April 6, 1981, p. 71.

In table 18, the supply of doctoral degrees has been standardized for a five year period (1982 to 1986). On average, 1,171 new doctoral degrees would be available each year for employment: 570 in the human sciences, and 601 in the sciences.

Female Enrolment and Graduation Patterns

During the ten year period (1960-61 to 1969-70) the number of women who received a bachelor's and first professional degree was about 124,000 (see Table 1). In the seventies this number almost tripled to 358,000 (1970-71 to 1980).

Based on current enrolment, and anticipated trends there will be close to half a million female graduates during the 1980s with a bachelor's and first professional degree. These supply data have to be related to the demand for university graduates. Female graduation during the seventies has grown, particularly in those fields of studies such as education, fine and applied arts, and the humanities where the labour market demand was curtailed.

In contrast, in the sciences, women accounted only for 1 out of 3 graduates. In these fields, particularly in an applied science nature the demand has been strong, but less than 10% of engineering graduates are female, and this would only change gradually.

A separate tables has been prepared to compare the indices of growth (1970-71 = 100.0) for full-time undergraduate enrolment and for bachelor's and first professional degrees, by field of study and sex (Table 19).

Table 19

Indices of Growth, Full-time Undergraduate Enrolment Compared with Bachelor's and First Professional Degrees Awarded by Field of Study and Sex, 1970-71 to 1980

	1970-71	1971-72	1972-73	1974	1975	1976	1977	1978	1979	1980
Education:*										
Male: Enrolment	100.0	102.1	92.9	94.9	94.0	102.4	100.2	92.5	80.7	71.8
Degrees	100.0	102.0	106.3	95.5	103.3	102.1	100.9	93.3	82.8	72.5
Female: Enrolment	100.0	99.8	97.4	103.6	112.8	128.5	137.8	134.0	123.3	116.5
Degrees	100.0	109.7	106.6	103.0	134.1	149.7	152.9	156.6	150.4	143.0
Fine and Applied Arts:*										
Male: Enrolment	100.0	146.9	161.4	175.8	182.9	191.9	198.8	193.9	194.1	194.5
Degrees	100.0	98.8	114.6	132.5	166.5	173.6	163.5	201.3	178.9	117.9
Female: Enrolment	100.0	130.9	168.3	180.3	200.8	226.5	231.5	236.0	237.2	236.1
Degrees	100.0	126.8	144.0	187.5	209.1	227.4	254.6	289.2	255.2	268.4
Sub-total - Human Sciences:										
Male: Enrolment	100.0	102.6	97.5	99.8	100.5	105.5	103.9	100.1	95.8	94.6
Degrees	100.0	103.2	104.6	107.2	111.9	111.9	114.5	113.6	107.8	103.6
Female: Enrolment	100.0	105.1	102.3	108.3	115.7	128.3	136.5	137.0	134.3	136.3
Degrees	100.0	112.4	112.8	124.6	148.8	160.3	174.1	181.3	178.3	176.9
Engineering and Applied Sciences:*										
Male: Enrolment	100.0	103.0	99.0	99.3	105.7	115.3	121.4	128.0	131.1	133.9
Degrees	100.0	105.5	104.6	105.2	107.0	105.7	115.9	128.9	142.6	154.1
Female: Enrolment	100.0	136.9	141.1	182.5	267.5	360.1	460.8	553.4	626.2	697.3
Degrees	100.0	172.5	170.6	184.3	251.0	333.3	498.0	762.7	919.6	1084.3
Sub-total - Sciences:										
Male: Enrolment	100.0	100.9	101.3	102.9	105.3	108.7	109.8	110.1	108.4	110.4
Degrees	100.0	107.0	105.1	112.4	114.5	117.7	123.2	128.3	128.5	131.7
Female: Enrolment	100.0	111.6	122.1	131.7	145.0	156.9	161.9	165.4	166.2	172.1
Degrees	100.0	109.1	115.1	139.5	155.9	173.0	189.7	198.1	202.0	206.4
Total:										
Male: Enrolment	100.0	102.2	100.1	101.9	104.1	108.8	108.1	106.0	102.9	102.9
Degrees	100.0	105.7	102.6	105.5	108.2	107.8	110.2	110.9	106.7	104.9
Female: Enrolment	100.0	106.8	108.3	115.2	125.4	138.3	144.8	146.1	144.9	147.9
Degrees	100.0	111.7	109.9	121.6	140.3	150.8	162.9	169.3	167.6	167.1

* Included in the sub-totals.

This comparison shows that women are more likely to graduate than men. For example, in the human sciences the female enrolment index in 1980-81 stood at 136.3 and the degree index was 176.9, whereas the male indices were 94.6 and 103.6, respectively. The overall enrolment index for men was 102.9, and the degree index, 104.9, while the female indices were 147.9 and 167.1. These figures confirm women's higher completion rate and their increasing share of enrolment, which will accelerate growth in the number of female graduates for this decade.

Similar to the exercise undertaken for a Ph.D. enrolment and graduation, the master's degrees awarded, for a ten year period (1970-71 to 1979-80) have been expressed as a percentage of full- and part-time master's enrolment by discipline and by sex. It appears that in most disciplines the likelihood of males graduating is higher than that of females. During these ten years 29.1% of males graduates, whereas the figure for females was 25.4%. This divergence was greatest in the sciences (engineering; 29.2 males, and 18.2 females). However, in some of those disciplines which are the preserve of female graduates, such as social work, and some of the health sciences disciplines, the percentage was higher than that of males; e.g., 48.6% for females in social work, and 44.7% for males. Some of the reasons for this development have been explored in the section of Ph.D.'s.

Science Degrees

The shift away from the sciences at the graduate degree level is evident in Table 20. Between 1969-70 and 1980, the number of bachelor's degrees awarded in the sciences rose steadily but levelled off in recent years.⁽⁸⁾ By contrast, at both the master's and doctoral levels, annual numbers have gone up and down, so that the 1980 totals are actually below those of 1969-70.

Table 20 also shows graduate degree recipients in the sciences as a proportion of bachelor's degrees awarded. This calculation brings the decline into even sharper focus. Whereas in 1970-71 master's degrees represented 15% of bachelor's degrees, the percentage has fallen to 9%. The drop at the doctoral level was more pronounced: graduates amounted to 6% of bachelor's degrees in 1970-71 and declined to 2.5% in 1980.

Table 21 displays engineering and applied science degrees by level of study from 1969-70 to 1980.⁽⁹⁾ Bachelor's degrees more than doubled from 3,500 to 7,300, while the number of master's

(8) It should be noted that the number of science degree recipients of the bachelor's level is an estimate because many of them have graduates in general arts and science programs with a minimum of science courses.

(9) Engineering and applied science include architecture, forestry and landscape architecture as well as engineering sciences and the various engineering disciplines.

Table 20

Science Degrees, by Level, 1969-70 to 1980

Year	Bachelor's	Master's*	Doctorate*
1969-70	15,391	2,313 (15.0)	915 (5.9)
1970-71	16,807	2,540 (15.1)	1,041 (6.2)
1971-72	18,488	2,396 (13.0)	1,059 (5.7)
1972-73	18,672	2,270 (12.2)	1,130 (6.1)
1974	20,688	2,021 (9.8)	1,011 (4.9)
1975	22,255	2,165 (9.7)	851 (3.8)
1976	22,752	2,252 (9.9)	716 (3.1)
1977	23,070	2,437 (10.6)	724 (3.1)
1978	24,313	2,435 (10.0)	759 (3.1)
1979	25,137	2,312 (9.2)	690 (2.7)
1980	25,583	2,278 (8.9)	646 (2.5)

* Excludes estimated foreign students who, by law, must leave Canada after graduation. Figures in brackets show a percentage of bachelor's degrees.

Note:

Table 21

Engineering and Applied Sciences Degrees, by Level and Sex, 1969-70 to 1980

Year	Bachelor's			Master's*			Doctoral*		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
1969-70	3,505	38	3,543	848	17	865 (24.4)	177	-	177 (5.0)
1970-71	3,867	31	3,878	1,007	10	1,017 (26.2)	207	-	207 (5.3)
1971-72	4,616	88	4,704	852	24	876 (18.6)	234	1	235 (5.0)
1972-73	4,601	87	4,688	836	19	855 (18.2)	254	9	263 (5.6)
1974	4,602	94	4,696	751	19	770 (16.4)	255	4	259 (5.5)
1975	4,718	128	4,846	759	30	789 (16.3)	183	8	191 (3.9)
1976	4,660	170	4,830	796	25	821 (17.0)	146	9	155 (3.2)
1977	5,070	254	5,324	870	32	902 (16.9)	161	2	163 (2.9)
1978	5,640	389	6,029	854	55	909 (15.1)	169	5	174 (2.6)
1979	6,237	469	6,706	842	51	893 (13.3)	169	7	176 (1.9)
1980	6,744	553	7,297	784	59	843 (11.6)	137	5	142 (1.9)

* Excludes estimate of foreign students who, by law, must leave Canada after graduation.

Note: Percentages in brackets show the relationship of master's degrees to total degrees.

degrees (excluding foreign students) was actually less at the end of the period than it had been at the beginning (from 865 to 843). The decline at the doctoral level was also considerable. Annual numbers dropped from a high of 263 in 1972-73 to 142 in 1980. As a proportion of bachelor's degree recipients in 1970-71, master's degrees represented 26.2% and, doctorates, 5.3%. By 1980 the percentages had dropped to 11.6% at the master's level and 1.9% at the doctoral.

Another indicator of the diminishing number of master's and doctoral degrees in the sciences is the decrease of these types of degrees in relation to the relevant age groups: 20-24 at the master's level and 25-29 at the doctoral. Substantial growth of these age groups between 1969-70 and 1980 suggests an even deeper erosion of science, especially when foreign students are excluded. The data also show the different participation rates of men and women in graduate science during the seventies.

Of the close to 1 million women aged 20-24, only 3 out of 10,000 earned a master's degree in the sciences during the early seventies. by 1980 this number had risen to 5 out of 10,000 (Table 22). Throughout the entire period, only 1 out of 10,000 women in the 25-29 age group received a science Ph.D.

There was a decline in graduate science degrees granted to men (Table 23). Numbers fell from 24 to 15 master's degree recipients per 10,000 population in the 20-24 age group. At the doctoral level, the decrease was from 12 to 5 out of 10,000 aged 25-29.

The decline in graduate science degrees is evident when doctorates are related to research and development expenditures. Table 24

Table 22

Master's and Doctoral Degrees Earned by Women in the Sciences, Compared with the Relevant Age Groups, 1969-70 to 1980

Year	Master's Degrees	20-24 Age Group ('000)	Master's Degrees as a % of Age Group	Doctorates	25-29 Age Group ('000)	Doctorates as a % of Age Group
1969-70	244	868.6	0.028	42	708.6	0.006
1970-71	269	910.5	0.030	63	745.0	0.008
1971-72	311	947.6	0.033	64	783.4	0.008
1972-73	328	948.4	0.035	85	841.3	0.010
1974	310	966.7	0.032	69	878.3	0.008
1975	418	1,002.2	0.042	92	919.1	0.010
1976	386	1,039.0	0.037	81	958.2	0.008
1977	474	1,068.0	0.044	72	992.5	0.007
1978	509	1,098.5	0.046	84	1,000.6	0.008
1979	511	1,119.5	0.046	87	1,011.1	0.009
1980	572	1,136.1	0.050	95	1,029.3	0.009

Note: Excludes estimate of foreign students.

Master's and Doctoral Degrees Earned by Men in the Sciences Compared with the Relevant Age Groups, 1969-70 to 1980

Year	Master's	20-24 Age Group ('000)	Master's Degrees as a % of Age Group	Doctorates	25-29 Age Group ('000)	Doctorates as a % of Age Group
1969-70	2,069	874.5	0.237	873	715.6	0.122
1970-71	2,271	911.1	0.249	978	758.3	0.129
1971-72	2,085	941.8	0.221	995	800.7	0.124
1972-73	1,942	951.4	0.204	1,045	844.5	0.124
1974	1,711	969.7	0.176	942	884.5	0.107
1975	1,747	1,005.0	0.174	759	923.7	0.082
1976	1,866	1,039.6	0.179	635	966.4	0.066
1977	1,963	1,065.8	0.184	652	1,000.5	0.065
1978	1,926	1,099.3	0.175	675	1,004.7	0.067
1979	1,801	1,128.6	0.160	603	1,011.1	0.060
1980	1,706	1,154.6	0.148	551	1,026.4	0.054

Note: Excludes estimate of foreign students.

Table 24

Research and Development Expenditures in Canada,
1963 to 1980

Year	[*] GERD in current \$	GERD** in constant dollars	^{GERD} GNP
	(\$'000)	(\$'000)	
1963	463	346	1.01
1964	554	424	1.10
1965	665	526	1.20
1966	754	623	1.22
1967	854	734	1.29
1968	910	807	1.25
1969	1,002	928	1.26
1970	1,061	1,028	1.24
1971	1,155	1,155	1.22
1972	1,186	1,129	1.13
1973	1,271	1,109	1.03
1974	1,490	1,128	1.01
1975	1,669	1,141	1.01
1976	1,803	1,125	.94
1977	2,014	1,175	.96
1978	2,317	1,271	1.00
1979	2,631	1,308	1.04
1980	3,029	1,363	1.04

*GERD = Gross domestic expenditures on research and development

**Deflated by the price index.

Note: Tables 20,21, A-16, and A-17 are derived from
Statistics Canada, Science Statistics Centre, R & D
Expenditures in Canada 1963-81, page 5.

Table 25

Research and Development Expenditures Related to
Doctoral Degrees in Science, 1970 to 1980

Year	GERD in Constant 1971 Dollars	Doctorates in Science	Per Capita Expenditures on R & D in Constant 1971 Dollars
(\$'000)			
1970	\$1,028,000	915	\$1,123,497
1971	\$1,155,000	1,041	\$1,109,510
1972	\$1,129,000	1,059	\$1,066,100
1973	\$1,109,000	1,130	\$981,416
1974	\$1,128,000	1,011	\$1,115,727
1975	\$1,141,000	851	\$1,340,776
1976	\$1,125,000	716	\$1,571,229
1977	\$1,175,000	724	\$1,622,928
1978	\$1,271,000	759	\$1,674,572
1979	\$1,308,000	690	\$1,895,652
1980	\$1,363,000	646	\$2,109,907

Note: GERD = Gross domestic expenditures for research and development.

Source: Statistics Canada, Science Statistics Centre, December,
1981. R & D Expenditures in Canada 1963-81, pp. 41.

shows that Gross Domestic Expenditures on Research and Development (GERD) as a percentage of Gross National Product (GNP) were highest in the late 1960s, but during most of the seventies hovered around 1%. For many years this "underfunding" itself, has been a contentious issue.⁽¹⁰⁾ However, when R and D expenditures are related to the number of science Ph.D.'s, the amount hypothetically available per capita is seen to have increased from about \$1 million during the early seventies to more than \$2 million in 1980 (Table 25).⁽¹¹⁾ If the targeted 1.5% of GNP for R and D expenditures is realized by 1985, qualified research personnel may be scarce.

From 1980-81 enrolment data, the number of Ph.D.'s available for each discipline can be derived with a high degree of accuracy is noted in Table 18. Therefore, Canada's supply of science doctorates is basically fixed until 1986. Over the 1982-1986 period, a total of 600 Ph.D.'s will be awarded annually in the sciences to Canadian citizens and permanent residents.⁽¹²⁾

(10) Senate Committee on Science Policy, many Science Council reports and some Background Papers of the Ministry of State for Science and Technology.

(11) Similar calculations have been made for bachelor's and master's degrees in science (Tables A-16 and A-17).

(12) In a number of studies during the last ten years, the author has addressed the question of supply and demand of Ph.D.'s. Most recently, in Doctoral Enrolment and Graduation Patterns at Canadian Universities During the Seventies and Their Implications for the Eighties: A Statistical Documentation by Discipline, (Statistics Canada), April 6, 1981, p.71. "The Ph.D. Dilemma in Canada Revisited", The Canadian Journal of Higher Education, February 1978, pp. 49-92. "The Ph.D. Dilemma in Canada: A Case Study", Canadian Higher Education in the Seventies, (Economic Council of Canada), 1972, pp. 75-1

Concluding Observations

Expansion of Canada's university system since the mid-sixties has meant substantial growth in university-trained manpower. According to the 1971 Census, Canada had only about 720,000 degree-holders (fewer than one-third were women). During the next ten years, this number grew to an estimated 1.7 million (including permanent residents (landed immigrants) with degrees and Canadian citizens who earned their degrees abroad). Of the 930,000 who had graduated from Canadian universities between 1970-71 and 1980, 43% were women. Based on current enrolment data and demographic trends, an additional one million persons will graduate from university in this decade, and more than 50% will be women.

In this context, it should be noted that a university degree provides a labour market advantage. The unemployment rate for degree-holders is substantially lower than for the labour force as a whole: in 1981, 3.2% versus 7.6%. Nonetheless, the advantage for men is greater than that for women. Unemployment among male degree-holders averaged 2.4%, while the rate among their female counterparts was 4.7%.

A feature of the women's graduation pattern has been and still is their concentration in traditionally "female" fields. As noted in the study, the number of female graduates has grown during the seventies, particularly in disciplines such as education, fine and applied arts, and the humanities where labour market demand has dwindled. This has forced many women with degrees to accept employment in the service sector in occupations for which a university degree has not normally been a prerequisite. The level of income in these jobs also tends to be lower than in the industrial sector or in professional occupations. By contrast, women accounted for only one out of three graduates in the sciences and fewer than 10% of engineering graduates. A more recent

development has been the growth of female enrolment in professional programs such as business and law. They now make up over one-third of these students, compared with fewer than 10% a few years ago. These enrolment trends will shift the female graduation pattern away from traditional fields and open up managerial and professional employment opportunities. These changing patterns have not been explored comprehensively in the studies mentioned in the Foreword. The data in this report give some of the information needed for further analysis (this is why such precise data are provided).

Another development that should be noted is the increase of Ph.D. recipients. According to the Highly Qualified Manpower Survey, there were close to 25,000 Ph.D.-holders (2,200 women) in the Canadian labour force by 1973. Only about 40% had earned their doctorate in Canada. During the seventies, Canadian universities awarded a total of 17,800 Ph.D.'s (more than 10,000 in the sciences). In addition, an estimated 7,000 Canadian citizens and permanent residents (landed immigrants) received their doctorates abroad. The number granted during the seventies almost matches all the Ph.D. recipients in Canada. Projections indicate that total Ph.D. output will remain at the current level. However, in the sciences, if foreign students are excluded, a drop is forecast so that only 3,000 Ph.D.'s will graduate from Canadian universities over the next five years. These supply data fall short of present and future demand, and conflict with the government commitment to increase research and development expenditures from 1.0% of GNP to 1.5%. This deficiency of science Ph.D.'s has implications for the health of the economy and the viability of the industrial sector, in particular with regard to the diffusion and implementation of new technology.

Graduate output is measured by a number of statistical indicators: graduation index, graduation rate, graduate degrees as a percentage of undergraduate degrees, completion rate. None of these measures should be considered in isolation; together they provide a more comprehensive and interesting perspective on Canada's production of university graduates during the seventies. Of particular significance is the divergence between women's and men's completion rates by type of degree. At the bachelor's level it is more likely that women will graduate, while the opposite is true for master's and Ph.D. degrees. The reasons for this are difficult to document, but from a labour market point of view they have substantial implications.

The indices of growth and shifts in fields of specialization reflect changes in labour market demand and the value attached to a university degree. These indicators might help the universities to assess their performance, as measured by the number and composition of degrees awarded.

Table A-1

Bachelor's and First Professional Degrees, by Discipline
Selected Years

Field and Discipline of Study	1961-62	1963-64	1965-66	1967-68	1969-70	1971-72	1974	1976	1978	1980
Arts*	10,167 (44.5)	13,702 (47.7)	18,336 (48.4)	24,329 (49.9)	28,001 (46.3)	31,302 (43.1)	31,264 (41.8)	30,909 (37.1)	30,769 (34.5)	28,262 (32.8)
Science	1,927 (8.4)	2,707 (9.4)	3,595 (9.5)	5,127 (10.5)	6,739 (11.1)	8,788 (12.1)	9,762 (13.0)	11,189 (13.4)	10,586 (11.9)	10,593 (12.3)
Sub-total Arts and Science	12,094 (53.0)	16,409 (57.1)	21,931 (57.9)	29,456 (60.4)	34,740 (57.5)	40,090 (55.2)	41,026 (54.8)	42,098 (50.6)	41,355 (46.3)	38,855 (45.1)
Agriculture	351 (1.5)	392 (1.4)	435 (1.1)	538 (1.1)	531 (0.9)	617 (0.9)	599 (0.8)	717 (0.9)	914 (1.0)	880 (1.0)
Architecture	102 (0.4)	101 (0.4)	139 (0.4)	204 (0.4)	368 (0.6)	249 (0.3)	346 (0.5)	473 (0.6)	653 (0.7)	632 (0.7)
Commerce & Business Administration	1,143 (5.0)	1,468 (5.1)	1,831 (4.8)	2,279 (4.7)	2,949 (4.9)	3,656 (5.0)	4,604 (6.2)	5,983 (7.2)	7,637 (8.6)	8,698 (10.1)
Dentistry	229 (1.0)	258 (0.9)	299 (0.8)	334 (0.7)	341 (0.6)	398 (0.5)	465 (0.6)	478 (0.6)	469 (0.5)	491 (0.6)
Education	3,425 (15.0)	4,269 (14.9)	6,568 (17.3)	7,859 (16.1)	11,244 (18.6)	14,665 (20.2)	13,194 (17.6)	16,891 (20.3)	16,630 (18.6)	14,052 (16.3)
Engineering	2,437 (10.7)	2,423 (8.4)	2,327 (6.1)	2,681 (5.5)	3,543 (5.9)	4,068 (5.6)	4,055 (5.4)	3,852 (4.6)	5,105 (5.7)	6,214 (7.2)
Fine and Applied Arts	24 (0.1)	64 (0.2)	62 (0.2)	104 (0.2)	105 (0.3)	498 (0.7)	579 (0.8)	848 (1.0)	2,027 (2.3)	1,851 (2.2)
Forestry	110 (0.5)	105 (0.4)	116 (0.3)	113 (0.2)	185 (0.3)	222 (0.3)	209 (0.3)	235 (0.3)	271 (0.3)	451 (0.5)
Household Sciences	303 (1.3)	338 (1.2)	420 (1.1)	527 (1.1)	617 (1.0)	600 (0.8)	814 (1.1)	1,039 (1.2)	1,021 (1.1)	880 (1.0)
Law	656 (2.9)	685 (2.4)	938 (2.5)	1,167 (2.4)	1,502 (2.5)	2,152 (3.0)	2,443 (3.3)	2,578 (3.1)	3,022 (3.4)	3,017 (3.5)
Medicine	846 (3.7)	774 (2.7)	890 (2.4)	1,001 (2.1)	1,073 (1.8)	1,550 (2.1)	2,042 (2.7)	2,005 (2.4)	2,253 (2.5)	2,232 (2.6)
Music	88 (0.4)	95 (0.3)	144 (0.4)	208 (0.4)	334 (0.6)	449 (0.6)	485 (0.6)	675 (0.8)	880 (1.0)	800 (0.9)
Nursing	366 (1.6)	407 (1.4)	662 (1.7)	954 (2.0)	1,245 (2.0)	1,156 (1.6)	1,161 (1.6)	1,249 (1.5)	1,406 (1.6)	1,474 (1.7)
Rehabilitation Medicine	- (0.0)	11 (0.0)	26 (0.1)	57 (0.1)	228 (0.4)	241 (0.3)	462 (0.6)	581 (0.7)	673 (0.8)	800 (0.9)
Pharmacy	275 (1.2)	357 (1.2)	364 (1.0)	406 (0.8)	404 (0.7)	461 (0.6)	591 (0.8)	710 (0.8)	718 (0.8)	668 (0.8)
Physical Education	315 (1.4)	496 (1.7)	616 (1.6)	805 (1.6)	837 (1.4)	1,354 (1.9)	1,594 (2.1)	1,867 (2.2)	2,884 (3.2)	2,849 (3.3)
Social Work	-	-	-	-	-	-	-	773 (0.9)	1,120 (1.3)	1,131 (1.3)
Veterinary Medicine	72 (0.3)	83 (0.3)	90 (0.2)	94 (0.2)	117 (0.2)	138 (0.2)	182 (0.2)	224 (0.3)	244 (0.3)	250 (0.3)
Total	22,836	28,735	37,858	48,787	60,453	72,564	74,851	83,276	89,282	86,243

*Includes Library Science, Religion and Theology, and "Other."

Note: Percentages in brackets show distribution by field of study.

Table A-2

Estimate of Master's Degrees Earned by Female Canadian Citizens and Permanent Residents,
by Field of Study, 1969-70 to 1980

Field of Study	1969-70	1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education	300	367	440	657	543	596	765	880	952	1,074	1,090	58
Fine and Applied Arts	41	41	52	40	50	58	80	76	76	101	85	1
Humanities	568	690	848	845	813	865	823	843	858	858	823	1
Social Sciences	543	579	671	689	739	869	1,006	1,056	1,129	1,184	1,277	1
Sub-total Human Sciences	1,452	1,677	2,011	2,231	2,145	2,388	2,674	2,855	3,015	3,217	3,275	58
Agriculture	90	114	126	117	104	117	144	174	161	140	176	1
Engineering	18	11	26	21	21	33	27	35	59	56	65	1
Health Sciences	92	79	97	115	104	138	135	191	212	241	278	1
Mathematics & Physical Sciences	63	87	88	103	107	166	114	115	122	126	113	1
Sub-total Sciences	263	291	337	356	336	454	420	515	554	563	632	1
Total	1,732	1,968	2,348	2,587	2,481	2,842	3,094	3,370	3,569	3,780	3,907	1

Table A-3

Estimate of Master's Degrees Earned by Male Canadian Citizens and Permanent Residents,
by Field of Study, 1969-70 to 1980

Field of Study	1969-70	1970-71	1971-72	1972-73	1974	1975	1976	1977	1978	1979	1980
Education	902	961	1,162	1,160	1,250	1,327	1,307	1,376	1,477	1,332	1,283
Fine and Applied Arts	25	37	38	57	58	58	59	70	68	85	80
Humanities	1,028	1,186	1,280	1,213	1,003	1,027	915	950	944	724	682
Social Sciences	2,019	2,331	2,369	2,516	2,491	2,743	2,740	2,850	2,710	2,587	2,601
Sub-total Human Sciences	3,974	4,515	4,849	4,946	4,802	5,155	5,021	5,246	5,199	4,728	4,646
Agriculture	378	411	395	335	295	304	378	381	383	348	343
Engineering	916	1,089	922	906	815	824	865	947	930	930	866
Health Sciences	178	160	154	150	131	132	148	124	153	158	145
Mathematics & Physical Sciences	763	796	786	713	614	636	636	683	631	552	532
Sub-total Sciences	2,235	2,456	2,257	2,104	1,855	1,896	2,027	2,135	2,097	1,988	1,886
Unclassified Sciences	7	-	1	9	26	24	18	12	2	1	2
Total	6,216	6,971	7,107	7,059	6,683	7,075	7,066	7,393	7,298	6,717	6,534

Table A-4

Master's Degrees in Business Compared with Total Master's Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total	
	Master's degrees in business	Total master's degrees	Master's degrees in business	Total master's degrees	Master's degrees in business	Total master's degrees
1969-70	952	6,640	14.3	19	1,821	1.0
1970-71	1,065	7,516	14.2	27	2,122	1.3
1971-72	1,104	7,715	14.3	31	2,543	1.2
1972-73	1,191	7,778	15.3	43	2,852	1.5
1974	1,201	7,426	16.2	74	2,770	2.7
1975	1,469	7,950	18.5	164	3,118	5.3
1976	1,457	8,030	18.1	236	3,525	6.7
1977	1,533	8,498	18.0	269	3,877	6.9
1978	1,453	8,486	17.1	277	4,151	6.7
1979	1,471	7,903	18.6	319	4,448	7.2
10-year total	12,896	77,942	16.5	1,459	31,227	4.7
						14,355
						109,169
						13.1

Table A-5

Master's Degrees in Engineering and Applied Sciences Compared with Total Master's Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total	
	Master's degrees in engineering & applied sciences	Total master's degrees	Master's degrees in engineering & applied sciences as % of total	Total master's degrees	Engineering & applied sciences as % of total	Master's degrees in engineering & applied sciences as % of total
1969-70	968	6,640	14.6	18	1,821	1.0
1970-71	1,163	7,516	15.5	12	2,122	0.6
1971-72	998	7,715	12.9	28	2,543	1.1
1972-73	988	7,778	12.7	23	2,852	0.8
1974	905	7,426	12.2	23	2,770	0.8
1975	926	7,950	11.6	37	3,118	1.2
1976	984	8,030	12.3	31	3,525	0.9
1977	1,088	8,498	12.8	40	3,877	1.0
1978	1,081	8,486	12.7	69	4,151	1.7
1979	1,094	7,903	13.8	66	4,448	1.5
10-year total	10,195	77,942	13.1	347	31,227	1.1
						10,542
						109,169
						9.7
						61
						12.2
						10.0
						9.5
						9.4

Table A-6

Master's Degrees in Law Compared with Total Master's Degrees, by Sex, 1969-70 to 1979

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Year	Male			Female			Total		
	Master's degrees in law	Total master's degrees	Law as % of total	Master's degrees in law	Total master's degrees	Law as % of total	Master's degrees in law	Total master's degrees	Law as % of total
1969-70	34	6,640	0.5	5	1,821	0.3	39	8,461	0.5
1970-71	30	7,516	0.4	3	2,122	0.1	33	9,638	0.4
1971-72	24	7,715	0.3	4	2,543	0.2	28	10,258	0.3
1972-73	32	7,778	0.4	3	2,852	0.1	35	10,630	0.3
1974	40	7,426	0.5	8	2,770	0.3	48	10,196	0.5
1975	41	7,950	0.5	4	3,118	0.1	45	11,068	0.4
1976	53	8,030	0.7	7	3,525	0.2	60	11,555	0.5
1977	130	8,498	1.5	15	3,877	0.4	145	12,375	1.2
1978	65	8,486	0.8	16	4,151	0.4	81	12,637	0.6
1979	63	7,903	0.8	11	4,448	0.2	74	12,351	0.6
10-year total	512	77,942	0.7	76	31,227	0.2	588	109,169	0.5

Table A-7

Master's Degrees in Fine and Applied Arts Compared with Total Master's Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total	
	Total Master's degrees in master's fine and applied arts	Fine and applied arts as % of total arts	Total Master's degrees in master's fine and applied arts	Fine and applied arts as % of total arts	Total Master's degrees in master's fine and applied arts	Fine and applied arts as % of total arts
1969-70	26	6,640	43	1,821	2.4	69
1970-71	42	7,516	44	2,122	2.1	86
1971-72	40	7,715	57	2,543	2.2	97
1972-73	54	7,778	41	2,852	1.4	95
1974	64	7,426	56	2,770	2.0	120
1975	65	7,950	65	3,118	2.1	130
1976	67	8,030	91	3,525	2.6	158
1977	80	8,498	88	3,877	2.3	168
1978	79	8,486	88	4,151	2.1	167
1979	100	7,903	119	4,448	2.7	219
10-year total	617	77,942	692	31,227	2.2	1,309
						109,169
						1.2

Table A-8

Estimate of Doctoral Degrees Earned by Female Canadian Citizens and Permanent Residents,
by Field of Study, 1969-70 to 1980

Field of Study	1969-70	1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education	15	5	11	20	15	42	38	34	31	43	60	
Fine and Applied Arts	1	1	3	—	—	2	2	2	4	2	2	
Humanities	39	38	36	40	57	51	71	69	62	72	59	
Social Sciences	23	33	31	46	61	61	69	68	78	77	78	
Sub-total Human Sciences	78	76	80	116	132	156	180	173	174	194	198	64
Agriculture	20	21	22	27	23	36	32	21	31	24	36	
Engineering	—	—	1	9	4	8	9	2	5	7	5	
Health Sciences	8	10	21	29	18	21	17	22	22	33	33	
Mathematics & Physical Sciences	15	31	21	20	24	27	23	28	26	24	21	
Sub-total Sciences	42	63	64	85	69	92	81	72	84	87	95	
Total	120	139	144	191	201	249	261	245	258	361	293	

Table A-9

Estimate of Doctoral Degrees Earned by Male Canadian Citizens and Permanent Residents,
by Field of Study, 1969-70 to 1980

Field of Study	1969-70	1970-71	1971-72	1972-73	1973	1974	1975	1976	1977	1978	1979	1980
Education	58	66	87	87	96	102	91	105	92	104	92	
Fine and Applied Arts	2	5	3	4	4	4	2	6	2	6	4	
Humanities	105	130	146	161	170	181	132	136	140	149	121	
Social Sciences	132	178	177	209	219	251	267	218	252	225	221	
Sub-total Human Sciences	299	378	413	462	488	539	493	465	486	484	437	
Agriculture	201	233	194	193	189	166	131	162	155	147	119	
Engineering	177	207	234	254	256	183	146	161	169	169	137	
Health Sciences	82	84	115	128	114	81	69	62	76	69	68	
Mathematics & Physical Sciences	414	458	451	470	384	328	289	267	275	218	226	
Sub-total Sciences	873	978	995	1,045	942	759	635	652	675	603	551	
Total	1,172	1,356	1,408	1,507	1,430	1,297	1,128	1,117	1,161	1,087	988	

Table A-10

Doctoral Degrees in Business Compared with Total Doctoral Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total		Business as % of total		
	Doctoral degrees in business	Total doctoral degrees	Business as % of total	Total doctoral degrees	Business as % of total	Doctoral degrees in business	Total doctoral degrees	Business as % of total	
1969-70	13	1,247	1.0	1	128	0.8	14	1,375	1.0
1970-71	4	1,474	0.3	—	151	0.0	4	1,625	0.2
1971-72	6	1,564	0.4	—	160	0.0	6	1,724	0.3
1972-73	10	1,712	0.6	—	217	0.0	10	1,929	0.5
1974	10	1,662	0.6	—	234	0.0	10	1,896	0.5
1975	19	1,544	1.2	—	296	0.0	19	1,840	1.0
1976	11	1,375	0.8	1	318	0.3	12	1,693	0.7
1977	8	1,396	0.6	2	306	0.7	10	1,702	0.6
1978	19	1,488	1.3	—	331	0.0	19	1,819	1.0
1979	18	1,434	1.3	—	369	0.0	18	1,803	1.0
10-year total	118	14,896	0.8	4	2,510	0.2	122	17,406	0.7

Table A-11

Doctoral Degrees in Engineering and Applied Sciences Compared with Total Doctoral Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total	
	Doctoral degrees in engineering & applied sciences as % of total	Total doctoral degrees	Doctoral degrees in engineering & applied sciences as % of total	Total doctoral degrees	Doctoral degrees in engineering & applied sciences as % of total	Doctoral degrees in engineering & applied sciences as % of total
1969-70	188	1,247	15.1	128	0.0	188
1970-71	255	1,474	15.3	151	0.0	225
1971-72	260	1,564	16.6	160	0.6	261
1972-73	289	1,712	16.9	10	217	4.6
1974	297	1,662	17.9	4	234	1.7
1975	218	1,544	14.1	9	296	3.0
1976	178	1,375	12.9	11	318	3.5
1977	201	1,396	14.4	2	306	0.7
1978	217	1,488	14.6	7	331	2.1
1979	222	1,434	15.5	9	369	2.4
10-year total	2,295	14,896	15.4	53	2,510	2.1
						2,348
						17,406
						13.5

Table A-12

Doctoral Degrees in Law Compared with Total Doctoral Degrees, by Sex, 1969-70 to 1979

Year	Male			Female			Total		
	Doctoral degrees in law	Total doctoral degrees	Law as % of total	Doctoral degrees in law	Total doctoral degrees	Law as % of total	Doctoral degrees in law	Total doctoral degrees	Law as % of total
1969-70	3	1,247	0.2	—	128	0.0	3	1,375	0.2
1970-71	13	1,474	0.9	2	151	1.3	15	1,625	0.9
1971-72	8	1,564	0.5	2	160	1.3	10	1,724	0.6
1972-73	5	1,712	0.3	—	217	0.0	5	1,929	0.3
1974	2	1,662	0.1	2	234	0.9	4	1,896	0.2
1975	6	1,544	0.4	1	296	0.3	7	1,840	0.4
1976	8	1,375	0.6	1	318	0.3	9	1,693	0.5
1977	4	1,396	0.3	1	306	0.3	5	1,702	0.3
1978	2	1,488	0.1	2	331	0.6	4	1,819	0.2
1979	5	1,434	0.3	1	369	0.3	6	1,803	0.3
10-year total	56	14,896	0.4	12	2,510	0.5	68	17,406	0.4

Table A-13

Doctoral Degrees in Fine and Applied Arts Compared with Total Doctoral Degrees, by Sex, 1969-70 to 1979

Year	Male		Female		Total				
	Doctoral degrees in fine and applied arts	Total doctoral degrees	Doctoral degrees in fine and applied arts as % of total	Total doctoral degrees	Fine and applied arts as % of total	Doctoral degrees in fine and applied arts	Fine and applied arts as % of total		
1969-70	2	1,247	0.2	1	128	0.8	3	1,375	0.2
1970-71	5	1,474	0.3	1	151	0.7	6	1,625	0.4
1971-72	3	1,564	0.2	3	160	1.9	6	1,724	0.3
1972-73	5	1,712	0.3	—	217	0.0	5	1,929	0.3
1974	4	1,662	0.2	—	234	0.0	4	1,896	0.2
1975	5	1,544	0.3	2	296	0.7	7	1,840	0.4
1976	3	1,375	0.2	2	318	0.6	5	1,693	0.3
1977	8	1,396	0.6	3	306	1.0	11	1,702	0.6
1978	2	1,488	0.1	5	331	1.5	7	1,819	0.4
1979	8	1,434	0.6	3	369	0.8	11	1,803	0.6
10-year total	45	14,896	0.3	20	2,510	0.8	65	17,406	0.4

	1970-71				1971-72				1972-73				1973-74				1974-75			
	Enrol- ment	Degrees	%*	Enrol- ment	Degrees	%*	Enrol- ment	Degrees	%*	Enrol- ment	Degrees	%*	Enrol- ment	Degrees	%*	Enrol- ment	Degrees	%*	Enrol- ment	
Education																				
Male	3,783	952	25.2	4,064	1,026	25.2	4,121	1,245	30.2	4,906	1,240	25.3	4,879	1,389	28.5					
Female	1,664	293	17.6	1,754	395	22.5	1,991	476	23.9	2,471	712	28.8	2,745	603	22.0					
Total	5,447	1,245	22.9	5,818	1,421	24.4	6,175	1,721	27.9	7,686	1,952	25.4	7,999	1,992	24.9					
Fine and Applied Arts																				
Male	157	26	16.6	194	42	21.6	171	40	23.4	212	54	25.5	223	64	28.7					
Female	174	43	24.7	233	44	18.9	245	57	23.3	235	41	17.4	293	56	19.1					
Total	331	69	20.8	427	86	20.1	416	97	23.3	471	95	20.2	632	120	19.0					
Classics																				
Male	78	27	34.6	58	43	74.1	60*	24	40.0	40*	29	72.5	50	15	30.0					
Female	48	19	39.6	31	13	41.9	50*	12	24.0	30*	10	33.3	27	9	33.3					
Total	126	46	36.5	89	56	62.9	110*	36	32.7	70*	39	55.7	77	24	31.2					
English																				
Male	712	242	34.0	637	243	38.2	597	254	42.6	515	197	38.2	576	173	30.0					
Female	654	188	28.8	639	193	30.2	600	227	37.8	565	202	35.8	627	174	27.8					
Total	1,366	430	31.5	1,276	436	34.2	1,197	481	40.2	1,215	399	32.8	1,326	347	26.2					
French																				
Male	385	96	24.9	363	96	26.4	367	117	31.9	327	94	28.8	359	71	27.4					
Female	351	114	32.5	366	95	26.0	391	121	31.0	352	87	24.7	355	90	25.4					
Total	736	210	28.5	729	191	26.2	758	238	31.4	679	181	26.7	614	161	26.2					
Other Modern Languages																				
Male	277	70	25.3	260	69	26.5	169	73	43.2	190	56	29.5	245	91	50.8					
Female	292	82	28.1	286	66	23.1	234	69	29.5	272	82	30.2	345	96	27.8					
Total	569	152	26.7	546	135	24.7	486	142	29.2	462	138	29.9	524	187	35.7					
History																				
Male	883	236	26.7	863	228	26.4	830	251	30.2	825	223	27.0	772	188	24.4					
Female	299	46	15.4	336	50	14.9	311	70	22.5	357	84	23.5	292	75	25.7					
Total	1,182	239	1,199	278	232	1,176	321	1,250	307	24.6	1,186	263	22.2							
Mathematics																				
Male	445	129	29.0	409	113	27.6	359	129	35.9	397	131	33.0	366	88	24.0					
Female	114	27	23.7	111	24	21.6	119	17	16.3	113	33	29.2	101	18	17.8					
Total	559	156	27.9	520	137	26.4	507	146	28.8	539	164	30.4	541	106	19.6					
Religious Studies																				
Male	232	34.9	1,025	336	32.8	1,252	405	32.4	1,137	444	39.0	1,174	315	26.8						
Female	149	13	8.7	180	49	27.2	215	60	27.9	205	53	25.8	263	40	15.2					
Total	814	245	30.1	1,205	385	32.0	1,512	465	30.8	1,381	497	36.0	1,538	355	23.1					
Other Humanities																				
Male	252	55	21.8	345	148	42.9	344	115	33.4	267	182	68.2	307	170	55.4					
Female	537	113	21.0	773	232	30.0	786	318	40.5	650	56.0	680	383	56.3						
Total	789	168	21.3	1,118	380	34.0	1,130	433	38.3	917	546	59.5	1,075	553	51.4					
Male	3,697	1,087	29.4	3,954	1,276	32.3	3,978	1,368	34.4	3,862	1,356	35.1	3,683	1,111	30.2					
Female	2,444	602	24.6	2,728	722	26.5	2,706	894	33.0	2,074	915	33.8	2,690	885	32.9					
Total	6,141	1,689	27.5	6,682	1,998	29.9	6,876	2,262	32.9	6,807	2,271	33.4	6,881	1,996	29.0					
Anthropology																				
Male	145	40	27.6	205	34	16.6	203	58	28.6	168	53	31.6	209	136	17.6					
Female	95	16	14.7	141	25	17.7	167	23	13.8	154	21	13.6	179	73	19.3					
Total	240	54	22.5	346	59	17.0	370	81	21.9	322	74	23.0	379	120	33.8					
Management & Admin. Studies																				
Male	3,755	952	28.2	3,627	1,065	29.4	3,602	1,104	30.6	3,703	1,191	32.2	3,555	1,201	33.8					
Female	1,113	19	16.8	152	27	17.8	179	31	17.3	335	43	12.8	444	74	16.0					
Total	3,488	971	27.8	3,779	1,092	28.9	3,783	1,135	30.0	4,038	1,234	30.6	4,646	1,275	27.4					
Economics																				
Male	245	25.3	881	299	33.9	818	297	36.3	851	344	40.4	890	299	33.6						
Female	96	24	25.0	126	25	19.8	110	21	19.1	121	57	47.1	143	32	22.4					
Total	1,064	269	25.3	1,007	324	32.2	938	318	33.9	1,012	401	39.6	1,110	331	29.8					
Geography																				
Male	542	99	18.3	619	132	21.3	597	125	20.9	640	140	21.9	701	122	17.4					
Female	117	14	12.0	130	26	20.0	146	34	23.3	166	25	15.1	192	26	13.5					
Total	659	113	17.2	749	158	21.1	743	159	21.4	806	165	20.5	893	148	16.6					
Law																				
Male	125	34	27.2	166	30	18.1	224	24	10.7	319	32	10.0	311	40	12.9					
Female	23	5	21.7	40	3	7.5	42	4	9.5	77	3	3.9	58	8	13.8					
Total	148	39	26.4	206	33	16.0	266	28	10.5	396	35	8.8	369	48	13.0					
Political Science																				
Male	683	137	20.1	719	196	27.3	758	204	26.9	837	212	25.3	681	234	34.4					
Female	129	22	17.0	145	17	11.7	178	34	19.1	174	44	14.4	181	40	22.1					
Total	1,071	159	19.6	864	213	24.6	1,038	238	22.9	1,011	256	25.3	910	274	30.1					
Psychology																				
Male	678	227	33.5	760	254	33.4	738	238	32.2	784	260	33.2	642	264	41.1					
Female	393	123	31.3	470	133	28.3	485	137	28.2	610	157	25.7	616	151	24.5					
Total	1,350	320	32.7	1,230	381	31.5	1,308	375	28.7	1,428	417	29.2	1,436	415	28.9					
Sociology																				
Male	603	122	20.2	646	138	21.4	562	139	25.6	521	150	28.8	485	128	26.4					
Female	351	55	15.7	349	54	15.5	298	77	25.8	350	100	28.6	319	88	27.6					
Total	954	177	18.6	995	192	19.3	868	216	24.9	889	250	28.1	883	216	24.5					

Table A-14

Master's Degrees as a Percentage of Total Master's Enrollment by Discipline and by Sex, 1970-71 to 1979-80 — Continued

	1975-76				1976-77				1977-78				1978-79				1979-80			
	Enrollment	Degrees	%*	Enrollment	Degree	%*	Enrollment	Degrees	%*	Enrollment	Degrees	%*	Enrollment	Degrees	%*	Enrollment	Degrees	%*	Enrollment	Degrees
<u>Education</u>																				
Male	5,381	1,492	27.7	5,585	1,485	26.6	5,363	1,582	29.5	5,142	1,718	33.4	5,009	1,567	31.3					
Female	3,389	669	19.7	4,015	869	21.6	4,384	1,001	23.1	4,701	1,107	23.6	5,167	1,263	24.4					
Total	9,251	2,161	23.4	9,679	2,354	24.3	9,747	2,593	26.6	9,922	2,825	28.5	10,176	2,830	27.8					
<u>Fine and Applied Arts</u>																				
Male	236	65	27.5	260	67	25.8	347	80	23.0	403	79	19.6	434	100	23.0					
Female	327	65	19.9	322	91	28.3	435	88	20.2	487	88	18.1	553	119	21.5					
Total	624	130	20.8	582	158	27.2	782	168	21.5	890	167	18.8	987	219	22.2					
<u>Classics</u>																				
Male	45	7	15.6	43	12	27.9	40	19	47.5	41	14	34.2	53	19	35.8					
Female	18	13	72.2	24	6	25.0	33	5	15.2	44	4	9.1	67	15	22.4					
Total	63	20	31.8	67	18	26.9	73	24	32.9	85	18	21.2	120	34	28.3					
<u>English</u>																				
Male	603	185	30.7	601	163	27.1	552	165	29.9	662	161	34.9	415	146	35.2					
Female	647	183	28.3	724	174	24.0	691	179	25.9	666	189	28.4	605	183	30.2					
Total	1,397	368	26.3	1,325	337	25.4	1,243	344	27.7	1,128	350	31.0	1,020	329	32.2					
<u>French</u>																				
Male	264	67	25.4	217	40	18.4	203	53	26.1	176	55	31.2	178	38	21.4					
Female	346	81	23.4	345	75	21.7	343	70	20.4	322	79	24.5	351	63	18.0					
Total	614	148	24.1	562	115	20.5	546	123	22.5	498	134	26.9	529	101	19.1					
<u>Other Modern Languages</u>																				
Male	193	58	30.0	178	61	34.3	208	54	26.0	187	68	36.4	170	51	30.0					
Female	360	118	32.8	348	98	28.2	376	114	30.3	374	95	25.4	348	103	29.6					
Total	553	176	31.8	526	159	30.8	584	168	28.8	561	163	29.1	518	154	29.7					
<u>History</u>																				
Male	794	190	23.9	860	208	24.2	732	209	28.6	717	154	21.5	649	170	26.2					
Female	319	79	24.8	425	84	19.8	377	91	24.1	369	87	23.6	387	74	19.1					
Total	1,196	269	22.5	1,285	292	22.7	1,109	300	27.0	1,086	241	22.2	1,036	244	23.6					
<u>Philosophy</u>																				
Male	391	105	26.8	382	102	26.7	388	87	22.4	389	107	27.5	393	89	22.6					
Female	132	30	22.7	133	39	29.3	130	25	19.2	133	27	20.3	135	26	19.3					
Total	553	135	24.4	515	141	27.4	518	112	21.6	522	134	25.7	528	115	21.8					
<u>Religious Studies</u>																				
Male	1,170	320	27.4	1,373	297	21.6	1,448	344	23.8	1,419	335	23.6	1,091	164	15.0					
Female	334	59	17.7	446	67	10.6	469	71	15.1	507	67	13.4	423	62	14.7					
Total	1,580	379	24.0	1,831	344	18.8	2,008	415	20.7	402	19.7	19.4	1,514	226	14.9					
<u>Other Humanities</u>																				
Male	364	201	55.2	351	132	37.6	361	139	38.5	371	168	45.3	551	175	31.8					
Female	666	385	57.8	744	379	50.9	911	381	41.8	1,020	421	41.3	1,334	483	36.2					
Total	1,048	586	55.9	1,095	511	46.7	1,277	520	40.7	1,391	589	42.3	1,885	658	34.9					
Male	3,824	1,133	29.6	4,005	1,015	25.3	3,932	1,070	27.2	3,762	1,062	28.2	3,500	852	24.3					
Female	2,822	948	33.6	3,187	902	28.3	3,335	936	28.1	3,228	969	28.3	3,650	1,009	27.6					
Total	7,004	2,081	29.7	7,206	1,917	26.6	7,358	2,006	27.3	7,308	2,031	27.8	7,150	1,861	26.0					
<u>Anthropology</u>																				
Male	218	47	21.6	228	33	14.5	216	39	18.1	235	39	16.6	229	52	22.7					
Female	198	32	16.2	210	36	17.1	232	43	18.5	245	39	15.9	257	41	16.0					
Total	416	79	19.0	438	69	15.8	448	82	18.3	480	78	16.2	486	93	19.1					
<u>Management & Admin. Studies</u>																				
Male	4,394	1,469	33.4	4,759	1,657	30.6	4,775	1,533	32.1	4,839	1,453	30.0	5,176	1,471	28.4					
Female	689	164	23.8	886	236	26.6	1,017	269	26.4	1,149	277	24.1	1,510	319	21.1					
Total	5,640	1,633	29.0	5,706	1,693	29.7	5,792	1,802	31.1	6,018	1,730	28.8	6,686	1,790	26.8					
<u>Economics</u>																				
Male	925	309	33.4	986	346	35.1	910	350	38.5	876	325	37.1	805	308	38.3					
Female	185	45	24.3	204	67	32.8	247	74	30.0	231	102	44.2	215	75	34.9					
Total	1,165	354	30.4	1,190	413	34.7	1,157	424	36.6	1,107	427	38.6	1,020	383	37.6					
<u>Geography</u>																				
Male	685	150	21.9	654	146	22.3	580	145	25.0	558	133	23.8	509	140	27.5					
Female	201	32	15.9	201	37	18.4	210	35	16.7	240	42	17.5	217	55	25.4					
Total	886	182	20.5	855	183	21.4	790	180	22.8	798	175	21.9	726	195	22.7					
<u>Law</u>																				
Male	305	41	13.4	349	53	15.2	349	130	37.2	379	65	17.2	433	63	14.6					
Female	75	4	5.3	79	7	8.9	105	15	14.3	115	16	13.9	137	11	8.0					
Total	380	45	11.8	428	60	14.0	454	145	14.3	494	81	16.4	570	74	13.0					
<u>Political Science</u>																				
Male	890	218	24.5	970	252	26.0	1,241	294	21.7	1,227	289	23.6	1,044	212	20.3					
Female	243	40	16.5	298	57	19.1	317	68	18.0	405	90	22.2	399	62	16.5					
Total	1,180	258	21.9	1,768	309	24.4	1,766	362	20.5	1,649	379	23.0	1,443	274	19.0					
<u>Psychology</u>																				
Male	782	285	36.4	837	291	34.8	752	276	16.7	739	274	37.1	725	32.8						
Female	801	224	28.0	899	258	28.7	870	265	30.5	858	278	32.4	916	269	29.4					
Total	1,636	509	31.1	1,736	549	31.6	1,622	541	33.4	1,597	552	34.6	1,641	507	30.9					
<u>Sociology</u>																				
Male	517	154	29.8	474	124	26.2	589	127	21.6	567	123	21.7	566	71	12.5					
Female	276	82	27.6	307	61	24.2	324	60	22.0	330	60	22.0	330	60	22.0					

		1970-71			1971-72			1972-73			1973-74			1974-75		
	Enrol- ment	Degrees	#*													
Social Work																
Male	492	226	45.9	477	238	49.9	398	210	52.8	388	189	48.7	373	179	48.0	
Female	610	282	46.2	558	271	48.6	467	312	66.8	498	240	48.2	470	272	57.9	
Total	1,102	508	46.1	1,035	509	49.2	865	522	60.4	886	429	48.4	843	451	53.5	
Other Social Sciences																
Male	671	120	17.4	771	148	19.2	664	214	32.2	1,006	226	22.5	1,138	273	24.0	
Female	293	46	15.7	325	65	20.0	962	73	7.6	493	96	19.5	591	125	21.2	
Total	964	166	17.2	1,096	213	19.4	1,304	287	22.0	1,519	322	21.2	1,845	398	21.6	
Sub-total Social Sciences																
Male	8,282	2,022	26.6	8,871	2,534	28.6	8,768	2,613	29.8	9,217	2,797	30.4	8,976	2,785	31.0	
Female	2,220	604	27.2	4,36	646	26.5	747	746	24.7	5,978	786	26.4	3,93	844	26.4	
Total	10,502	2,806	26.7	11,307	3,880	28.1	11,183	3,359	29.2	12,307	3,583	29.1	13,314	3,629	27.3	
Total Human Sciences																
Male	15,919	4,267	26.8	17,083	4,878	28.6	17,038	5,266	30.9	18,197	5,467	29.2	17,761	5,349	30.1	
Female	6,502	1,542	23.7	7,151	1,807	25.3	7,389	2,173	29.4	8,388	2,454	29.3	8,921	2,388	26.8	
Total	22,421	5,809	25.9	24,234	6,685	27.6	24,930	7,439	29.8	27,271	7,901	29.0	28,626	7,737	26.8	
Agriculture																
Male	384	148	38.5	444	152	34.2	307	130	42.4	306	135	44.1	222	91	41.0	
Female	58	14	24.1	56	13	23.2	52	19	36.5	55	16	29.1	51	12	23.5	
Total	442	162	36.6	500	165	33.0	359	149	41.5	361	151	41.8	273	103	37.7	
Biology, Botany & Zoology																
Male	786	214	27.2	740	233	31.5	658	234	35.6	797	197	47.7	785	209	26.6	
Female	286	54	18.9	277	61	22.0	268	84	31.3	297	67	22.6	345	72	20.9	
Total	1,072	268	25.0	1,017	294	28.9	926	318	34.3	1,106	264	23.9	1,186	281	23.7	
Other Agric. & Biol. Sc.																
Male	156	33	21.2	167	55	37.4	143	51	35.7	146	23	15.8	146	32	21.9	
Female	99	28	28.3	95	40.0	99	26	26.3	127	35	27.6	125	35	28.0		
Total	255	61	23.9	262	93	38.4	242	77	31.8	273	58	21.2	277	67	24.2	
Sub-total Agric.																
Male	1,226	395	29.8	1,331	440	33.1	1,108	415	37.4	1,249	355	28.4	1,153	332	28.8	
Female	443	96	21.7	428	112	26.2	419	129	30.8	479	118	24.6	521	119	22.8	
Total	1,769	491	27.8	1,759	552	31.4	1,527	544	35.6	1,740	473	27.2	1,736	451	26.0	
Engineering																
Male	3,082	968	31.4	3,101	1,165	37.5	3,021	998	33.0	3,030	988	32.6	3,371	905	26.8	
Female	81	18	22.2	82	12	14.6	84	28	33.3	120	23	19.2	148	23	15.5	
Total	3,163	986	31.2	3,183	1,175	36.9	3,105	1,026	33.0	3,289	1,011	30.7	3,686	928	25.2	
Health Sciences																
Male	589	192	32.6	1,112	180	16.2	470	179	38.1	527	183	36.7	585	146	25.0	
Female	328	98	29.8	331	97	29.3	336	113	33.6	465	137	30.5	496	116	23.4	
Total	917	290	31.6	1,443	277	19.2	808	292	36.1	992	320	32.3	1,113	262	23.5	
Mathematics																
Male	808	358	44.3	929	312	33.6	768	375	48.8	819	350	42.7	750	313	41.7	
Female	133	34	25.6	181	45	24.9	166	53	31.9	182	473	40.1	156	75	48.1	
Total	941	392	41.7	1,110	357	32.2	947	428	45.2	1,046	423	40.4	984	388	39.6	
Chemistry																
Male	567	141	24.9	437	189	43.2	419	162	38.7	406	143	35.2	402	115	28.6	
Female	102	21	20.6	93	36	27.8	100	28	30.0	112	26	23.2	117	16	13.7	
Total	669	162	24.2	530	219	41.3	527	190	36.0	598	169	28.3	631	131	20.8	
Geology																
Male	315	81	25.7	348	112	32.2	349	87	24.9	368	101	27.4	397	84	21.2	
Female	31	2	6.4	37	8	21.6	44	7	15.9	43	10	23.3	48	9	18.8	
Total	346	83	24.0	385	120	31.2	393	94	33.6	411	27.0	445	93	30.4	20.9	
Physics																
Male	552	214	38.8	505	226	44.8	438	207	47.3	432	178	41.2	413	158	38.3	
Female	43	9	20.9	36	10	27.8	34	7	20.6	34	10	29.4	33	17	51.5	
Total	595	223	37.5	541	236	43.6	479	216	44.7	492	188	38.2	480	175	36.5	
Other Mathematics																
Male	76	24	31.6	135	16	11.8	173	126	15.0	118	33	28.0	159	24	15.1	
Female	9	1	11.1	28	1	3.6	28	5	17.9	26	1	4.2	23	7	30.4	
Total	85	25	29.4	163	17	10.4	232	31	13.4	142	36	23.9	270	31	11.5	
Sub-total Mathematics and Physical Sciences																
Male	2,318	818	35.3	1,799	855	47.5	2,147	857	39.9	2,143	805	32.0	37.6	2,121	694	32.7
Female	318	67	21.1	832	94	11.3	372	100	26.9	395	120	30.4	377	124	32.9	
Total	2,636	885	33.6	2,631	949	36.1	2,578	957	37.1	2,689	925	34.4	2,810	818	29.1	
Total Sciences																
Male	7,315	2,373	32.4	7,343	2,638	35.9	6,746	2,649	36.3	6,949	2,331	33.6	7,230	2,077	28.7	
Female	1,170	279	23.8	1,673	315	18.8	1,211	370	30.6	1,459	398	27.2	1,542	382	24.8	
Total	8,485	2,658	31.3	9,016	2,953	32.8	6,018	2,819	35.2	8,710	2,729	31.3	9,345	2,459	26.3	
Grand Totals**																
Male	23,300	6,640	28.5	26,611	7,516	30.5	24,134	7,715	32.0	25,146	7,778	30.9	25,705	7,426	28.9	
Female	7,707	1,821	23.6	8,890	2,122	23.9	8,730	2,543	29.1	9,847	2,852	29.0	10,478	2,770	25.8	
Total	31,007	8,461	27.3	33,501	9,638	28.8	33,433	10,258	30.7	36,560	10,630	29.1	39,150	10,196	26.0	

Table A-14

Master's Degrees as a Percentage of Total Master's Enrolment by Discipline and by Sex, 1970-71 to 1979-80 - Continued

1975-76				1976-77				1977-78				1978-79				1979-80			
	Enrol- ment Degrees	X%		Enrol- ment Degrees	X%			Enrol- ment Degrees	X%			Enrol- ment Degrees	X%		Enrol- ment Degrees	X%			
Social Work				Male 400	183 45.8	372	173 46.5	406	148	36.6	380	167	44.0	411	116	28.2			
	Female 468	264 56.4	470	264 56.2	599	248	41.4	650	236	36.3	707	283	40.0						
Other Social Sciences	Total 872	447 51.3	842	437 51.9	1,003	396	39.1	1,030	403	39.1	1,118	399	35.7						
	Male 1,258	256 20.4	1,224	277 22.6	1,121	257	22.9	1,152	319	27.7	1,436	373	26.0						
	Female 757	104 13.7	753	131 17.4	817	131	16.0	889	172	19.4	736	206	28.0						
	Total 2,032	600 17.7	2,073	608 19.7	1,938	388	20.0	2,055	491	23.9	2,172	579	26.7						
Sub-total Social Sciences	Total 10,374	3,112 30.0	10,853	3,152 29.0	10,937	3,299	30.2	10,952	3,187	29.1	11,334	3,044	26.9						
	Male 3,996	1,000 25.0	4,376	1,184 27.1	4,936	1,248	25.3	5,278	1,362	25.4	5,649	1,393	24.7						
	Female 15,134	4,112 27.2	15,386	4,336 28.2	16,029	4,547	28.4	16,291	4,529	27.8	16,983	4,437	26.1						
Total Human Sciences	Male 19,815	5,802 29.3	20,703	5,719 27.6	20,579	6,031	29.3	20,259	6,046	29.8	20,277	5,563	27.4						
	Female 10,534	2,682 25.5	11,900	3,046 25.6	13,088	3,283	25.1	13,894	3,506	25.2	15,019	3,784	25.2						
	Total 32,013	8,484 26.5	32,853	8,765 26.7	33,916	9,314	27.5	34,411	9,552	27.8	35,296	9,347	26.5						
Agriculture	Male 280	87 31.1	361	106 29.4	383	116	30.3	373	124	33.2	396	105	26.5						
	Female 71	13 18.3	102	25 24.5	107	33	30.6	151	32	21.2	194	32	16.5						
	Total 351	100 28.5	463	131 28.3	490	149	30.4	524	156	29.8	590	137	23.2						
Biology, Botany & Zoology	Male 858	215 25.1	1,021	276 27.0	1,034	261	25.2	960	273	28.4	923	256	27.7						
	Female 402	77 19.2	465	93 20.0	465	111	23.9	450	114	25.3	475	95	20.0						
	Total 1,349	232 21.6	1,486	369 24.8	1,499	372	26.8	1,610	387	27.4	1,398	351	25.1						
Other Agric. & Biol. Sc.	Male 269	52 19.3	277	49 17.7	243	63	25.9	192	49	25.5	184	48	26.1						
	Female 180	46 25.6	190	45 23.7	206	56	27.2	203	42	20.7	218	38	17.4						
	Total 449	98 21.6	467	94 20.1	451	119	26.4	395	91	23.0	402	86	21.4						
Sub-total Agric.	Male 1,407	356 25.2	1,659	431 26.0	1,660	440	26.5	1,525	446	29.2	1,503	409	27.2						
	Female 653	136 20.8	757	163 21.5	778	200	25.7	804	188	23.4	887	165	18.6						
	Total 2,149	490 22.8	2,416	594 24.6	2,440	640	26.2	2,329	634	27.2	2,390	574	24.0						
Engineering	Male 3,691	926 25.1	4,001	984 24.6	3,903	1,088	27.9	3,738	1,081	28.9	3,985	1,094	27.4						
	Female 1,655	37 22.4	236	31 13.1	306	40	13.1	319	69	21.6	376	66	17.6						
	Total 4,057	963 23.7	4,237	1,015 24.0	4,210	1,128	26.8	4,057	1,150	28.4	4,361	1,160	26.6						
Health Sciences	Male 577	148 25.6	620	168 27.1	656	143	21.8	709	178	25.1	719	186	25.9						
	Female 670	155 23.1	750	153 20.4	793	220	27.7	910	246	27.0	1,024	284	27.0						
	Total 1,247	303 24.3	1,370	321 23.4	1,449	363	25.0	1,619	424	26.2	1,743	470	27.0						
Mathematics	Male 836	287 34.3	862	327 37.9	829	36.0	843	303	35.9	900	274	30.4							
	Female 171	45 26.3	219	60 27.4	214	64	29.9	199	72	36.2	216	44	20.4						
	Total 1,042	332 31.9	1,081	387 35.8	1,043	362	34.7	1,042	375	36.0	1,116	318	28.5						
Chemistry	Male 448	140 31.2	514	138 26.8	451	133	29.5	455	134	29.4	427	110	25.8						
	Female 112	37 33.0	152	32 21.0	139	37	26.6	136	37	27.2	124	38	30.6						
	Total 676	177 26.2	666	170 25.5	590	170	28.8	591	171	28.9	551	148	26.9						
Geology	Male 457	99 21.7	460	98 21.3	462	139	30.1	406	121	29.8	478	118	24.7						
	Female 58	13 22.4	63	10 15.9	68	11	16.2	71	12	16.9	94	18	19.2						
	Total 523	112 21.4	536	108 20.2	530	150	28.3	497	133	26.8	572	136	23.8						
Physics	Male 436	163 37.4	470	145 30.8	426	183	43.0	431	145	33.6	381	139	36.5						
	Female 38	12 31.6	47	25 53.2	48	15	31.2	51	17	33.3	35	17	48.6						
	Total 506	175 34.6	530	170 32.1	494	198	40.1	482	162	33.6	416	156	37.5						
Other Mathematics	Male 212	31 14.6	241	20 8.3	135	43	12.8	127	32	25.2	100	28	28.0						
	Female 42	1 2.4	37	5 13.5	21	7	33.3	23	4	17.4	26	12	46.2						
	Total 347	32 9.2	287	25 8.7	156	50	32.0	150	36	24.0	126	40	31.8						
Sub-total Mathematics and Physical Sciences	Male 2,389	720 30.1	2,547	728 28.6	2,303	796	34.6	2,662	735	32.5	2,866	650	30.4						
	Female 621	108 25.6	518	132 25.5	490	134	27.4	480	142	29.6	495	148	29.9						
	Total 3,094	828 26.8	3,100	660 27.7	2,813	930	33.1	2,762	877	31.8	2,781	798	28.7						
Total Sciences	Male 8,064	2,148 26.6	8,827	2,311 26.2	8,522	2,467	29.0	8,234	2,440	29.6	8,493	2,339	27.5						
	Female 1,909	436 22.8	2,261	479 21.2	2,367	594	25.1	2,513	645	25.7	2,782	663	23.8						
	Total 10,547	2,384 24.5	11,123	2,790 25.1	10,912	3,061	28.1	10,867	3,085	28.4	11,275	3,002	26.6						
Grand Total	Male 28,301	7,950 28.1	29,638	8,030 27.1	29,368	8,498	28.9	28,823	8,486	29.4	28,864	7,903	27.4						
	Female 12,636	3,118 24.7	14,233	3,525 24.8	15,547	3,877	24.9	16,540	4,151	25.1	17,836	4,448	24.9						
	Total 43,183	11,068 25.6	44,156	11,555 26.2	45,189	12,637	27.4	45,641	12,637	27.7	46,680	12,375	26.5						

Doctoral Degrees as a Percentage of Total Doctoral Enrolment, by Discipline and Sex, 1970-71 to 1979-80

1970-71				1971-72				1972-73				1973-74				1974-75			
Enrol- ment	Degrees No.	As % of enrol.	Enrol- ment	Degrees No.	As % of enrol.	Enrol- ment	Degrees No.	As % of enrol.	Enrol- ment	Degrees No.	As % of enrol.	Enrol- ment	Degrees No.	As % of enrol.	Enrol- ment	Degrees No.	As % of enrol.		
<u>Education</u>																			
Male	662	62	9.4	754	72	9.5	807	97	12.0	858	99	11.5	893	111	12.4				
Female	212	16	7.5	233	5	2.1	275	12	4.4	325	23	7.1	378	17	4.5				
Total	874	78	8.9	987	77	7.8	1,082	109	10.1	1,183	122	10.3	1,271	128	10.1				
<u>Fine and Applied Arts</u>																			
Male	45	2	4.4	39	5	12.8	47	3	6.4	49	5	10.2	49	4	8.2				
Female	27	1	3.7	30	1	3.3	35	3	8.6	42	—	0.0	45	—	0.0				
Total	72	3	4.2	69	6	8.7	82	6	7.3	91	5	5.5	94	4	4.2				
<u>Classics</u>																			
Male	74	3	4.0	67	3	4.5	114	10	8.8	50	5	10.0	48	6	12.5				
Female	25	1	4.0	27	—	0.0	60	4	6.7	30	2	6.7	28	1	3.6				
Total	99	4	4.0	94	3	3.2	174	14	8.0	80	7	8.8	76	7	9.2				
<u>English</u>																			
Male	411	29	7.1	457	37	8.1	472	37	7.8	445	47	10.6	450	46	10.2				
Female	269	21	7.8	309	12	3.9	349	11	3.2	348	17	4.9	385	20	5.2				
Total	680	50	7.4	766	49	6.4	821	48	5.8	793	64	8.1	835	66	7.9				
<u>French</u>																			
Male	173	9	5.2	187	11	5.9	211	13	6.2	193	10	5.2	178	16	9.0				
Female	170	6	3.5	185	7	3.8	194	7	3.6	160	11	6.9	165	9	5.5				
Total	343	15	4.4	372	18	4.8	405	20	4.9	353	21	5.9	343	25	7.3				
<u>Other Languages and Literature</u>																			
Male	158	18	11.4	188	15	8.0	157	10	6.4	235	15	6.4	233	24	10.3				
Female	139	4	2.9	134	13	9.7	136	7	5.1	199	8	4.0	199	18	9.0				
Total	297	22	7.4	322	28	8.7	293	17	5.8	434	23	5.3	432	42	9.7				
<u>History</u>																			
Male	428	23	5.4	450	32	7.1	444	46	10.4	435	34	7.8	396	40	10.1				
Female	87	6	6.9	89	4	4.5	107	3	2.8	104	1	1.0	106	7	6.6				
Total	515	29	5.6	539	36	6.7	551	49	8.9	558	35	6.3	523	47	9.0				
<u>Philosophy</u>																			
Male	392	19	4.8	384	29	7.6	409	26	6.4	386	39	10.1	368	42	11.4				
Female	71	3	4.2	76	3	3.9	96	5	5.2	93	4	4.3	93	8	8.6				
Total	463	22	4.8	460	32	7.0	507	31	6.1	479	43	9.0	463	50	10.8				
<u>Religious Studies</u>																			
Male	240	11	4.6	279	12	4.3	293	20	6.8	269	33	12.3	232	24	10.3				
Female	27	1	3.7	33	2	3.0	30	3	10.0	28	2	7.1	35	1	2.9				
Total	267	12	4.5	312	14	4.5	323	23	7.1	298	35	11.7	273	25	9.2				
<u>Other Humanities</u>																			
Male	—	—	0.0	4	2	50.0	60	—	0.0	42	—	0.0	46	—	0.0	9	22.2		
Female	—	—	0.0	3	—	0.0	40	—	0.0	88	—	0.0	88	2	5.6	2			
Total	—	—	0.0	7	2	28.6	100	—	0.0	—	—	0.0	88	—	0.0	36	5.6		
<u>Sub-total Humanities</u>																			
Male	1,876	112	6.0	2,016	141	7.0	2,131	162	7.6	2,054	183	8.9	1,925	198	10.3				
Female	788	42	5.3	856	41	4.8	1,014	40	3.9	1,009	45	4.5	1,020	66	6.5				
Total	2,664	154	5.8	2,872	182	6.3	3,145	202	6.4	3,083	228	7.4	2,981	264	8.9				

Table A-15

Doctoral Degrees as a Percentage of Total Doctoral Enrolment, by Discipline and Sex,
1970-71 to 1979-80 - continued

	1975-76		1976-77		1977-78		1978-79		1979-80	
	Enrol- ment No.	Degrees As % of enrol.								
Education										
Male	917	122	13.3	946	111	11.7	840	131	15.6	867
Female	429	50	11.7	491	46	9.4	509	42	8.2	591
Total	1,346	172	12.8	1,437	157	10.9	1,349	173	12.8	1,458
Fine and Applied Arts										
Male	53	5	9.4	56	3	5.4	61	8	13.1	57
Female	45	2	4.4	37	2	5.4	45	3	6.7	51
Total	98	7	7.1	93	5	5.4	106	11	10.4	108
Classics										
Male	43	7	16.3	40	7	17.5	44	3	6.8	46
Female	33	-	0.0	30	3	10.0	31	-	0.0	24
Total	76	7	9.2	70	10	14.3	75	3	4.0	70
English										
Male	447	58	13.0	414	44	10.6	339	38	9.5	382
Female	376	21	5.6	367	35	9.5	355	29	8.2	330
Total	823	79	9.6	781	79	10.1	754	67	8.9	712
French										
Male	178	16	9.0	181	7	3.9	164	18	11.0	149
Female	153	11	7.2	141	12	8.5	155	16	10.3	150
Total	331	27	8.2	322	19	5.9	319	34	10.7	299
Other Languages and Literature										
Male	172	20	11.6	162	17	10.5	177	18	10.2	170
Female	177	12	3.4	165	16	9.7	184	17	9.2	176
Total	349	32	9.2	327	33	10.1	361	35	9.7	346
History										
Male	419	54	12.9	406	44	10.8	383	38	9.9	343
Female	125	7	5.6	129	11	8.5	121	14	11.6	130
Total	562	61	10.9	535	55	10.3	504	52	10.3	473
Philosophy										
Male	382	35	9.2	362	25	6.9	342	32	9.4	318
Female	95	9	9.5	98	8	8.2	90	3	3.3	99
Total	478	44	9.2	460	33	7.2	432	35	6.1	417
Religious Studies										
Male	180	25	13.9	228	16	7.0	221	23	10.4	192
Female	29	-	0.0	50	2	4.0	56	6	10.7	42
Total	219	25	11.4	278	18	6.5	277	29	10.5	234
Other Humanities										
Male	48	-	0.0	40	1	2.5	23	-	0.0	23
Female	20	2	10.0	24	-	0.0	18	1	5.6	24
Total	75	2	2.7	64	1	1.6	41	1	2.4	47
Sub-total Humanities										
Male	1,869	215	11.5	1,833	161	8.8	1,753	170	9.7	1,623
Female	1,008	62	6.2	1,004	87	8.7	1,010	86	8.5	975
Total	2,913	277	9.6	2,837	248	8.7	2,763	256	9.3	2,598

Doctoral Degrees as a Percentage of Total Doctoral Enrolment, by Discipline and Sex,
1970-71 to 1979-80 - continued

	1970-71			1971-72			1972-73			1973-74			1974-75		
	Enrol- ment No.	Degrees As % of enrol.													
Anthropology (incl. Arch.)															
Male	111	5	4.5	117	7	6.0	113	4	3.5	122	6	4.9	132	13	9.8
Female	45	1	2.2	54	—	0.0	52	—	0.0	51	4	7.8	64	2	3.1
Total	156	6	3.8	171	7	4.1	165	4	2.4	173	10	5.8	196	15	7.6
Management & Admin. Studies															
Male	64	1	1.6	84	4	4.8	104	6	5.8	101	10	9.9	107	10	9.4
Female	—	—	0.0	1	—	0.0	—	—	0.0	2	—	0.0	3	—	0.0
Total	64	1	1.6	85	4	4.7	104	6	5.8	103	10	9.7	110	10	9.1
Economics															
Male	388	13	3.4	440	22	5.0	331	18	5.4	504	39	7.7	522	35	6.7
Female	40	1	2.5	48	2	4.2	26	3	11.5	65	—	0.0	63	4	6.4
Total	428	14	3.3	488	24	4.9	357	21	5.9	582	39	6.7	599	39	6.5
Geography															
Male	176	13	7.4	205	18	8.8	230	20	8.7	219	22	10.0	214	29	13.6
Female	19	1	5.3	20	—	0.0	20	2	10.0	24	2	8.3	24	2	8.3
Total	195	14	7.2	225	18	8.0	250	22	8.8	243	24	9.9	238	31	13.0
Law															
Male	58	3	5.2	55	13	23.6	51	8	15.7	49	5	10.2	47	2	4.3
Female	8	—	0.0	9	2	22.2	12	2	16.7	11	—	0.0	14	2	14.3
Total	66	3	4.6	64	15	23.4	63	10	15.9	60	5	8.3	61	4	6.6
Political Science															
Male	171	7	4.1	223	9	4.0	407	13	3.2	264	16	6.1	267	17	6.4
Female	27	—	0.0	35	—	0.0	56	3	5.4	30	4	13.3	38	2	5.3
Total	198	7	3.5	258	9	3.5	463	16	3.5	294	20	6.8	305	19	6.2
Psychology															
Male	654	71	10.9	695	92	13.2	738	92	12.5	802	93	11.6	798	100	12.5
Female	275	15	5.4	323	27	8.4	357	17	4.8	375	28	7.5	410	33	8.0
Total	929	86	9.3	1,018	119	11.7	1,095	109	10.0	1,552	121	7.8	1,208	133	11.0
Social Work															
Male	19	2	10.5	17	1	5.9	24	1	4.2	26	5	19.2	26	—	0.0
Female	9	—	0.0	7	—	0.0	12	—	0.0	11	1	9.1	14	1	7.1
Total	28	2	7.1	34	1	2.9	36	1	2.8	37	6	16.2	40	1	2.5
Sociology															
Male	233	5	2.2	247	7	2.8	282	14	5.0	306	18	5.9	332	24	7.2
Female	75	1	1.3	87	2	2.3	126	1	0.8	139	5	3.6	149	7	4.7
Total	308	6	2.0	334	9	2.7	408	15	3.7	445	23	5.2	481	31	6.4
Other Social Sciences															
Male	237	22	9.3	198	20	10.1	209	21	10.0	214	24	11.2	173	24	13.9
Female	114	5	4.4	136	3	2.2	113	6	5.3	120	8	6.7	117	8	15.4
Total	351	27	7.7	334	23	6.9	322	27	8.4	334	32	9.6	290	42	14.5
Sub-total Social Sciences															
Male	2,111	142	6.7	2,294	193	8.4	2,489	197	7.9	2,604	238	9.1	2,618	254	9.7
Female	612	24	3.9	720	36	5.0	774	34	4.4	828	52	6.3	892	71	8.0
Total	2,723	166	6.1	3,014	229	7.6	3,263	231	7.1	3,448	290	8.4	3,518	325	9.2
Total Human Sciences															
Male	4,694	318	6.8	5,103	411	8.0	5,474	459	8.4	5,565	525	9.4	5,485	565	10.3
Female	1,639	83	5.1	1,839	83	4.5	2,096	89	4.2	2,204	120	5.4	2,335	154	6.6
Total	6,333	401	6.3	6,942	494	7.1	7,572	548	7.2	7,809	645	8.3	7,864	719	9.1

Doctoral Degrees as a Percentage of Total Doctoral Enrollment, by Discipline and Sex,
1970-71 to 1979-80 — continued

	Enrol- ment	1975-76		1976-77		1977-78		1978-79		1979-80	
		Degrees No. As % of enrol.		Enrol- ment No. As % of enrol.		Degrees No. As % of enrol.		Enrol- ment No. As % of enrol.		Degrees No. As % of enrol.	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
Anthropology (Incl. Arch.)											
Male	133	5	3.8	134	18	13.4	137	8	5.8	134	19
Female	84	4	4.8	88	4	4.6	91	7	7.7	90	5
Total	217	9	4.2	222	22	9.9	228	15	6.6	224	24
Management & Admin. Studies											
Male	125	19	15.2	109	11	10.1	134	8	6.0	141	19
Female	7	—	0.0	12	1	8.3	12	2	16.7	24	—
Total	132	19	14.4	121	12	9.9	146	10	6.8	165	19
Economics											
Male	532	48	9.0	548	72	13.1	566	48	8.5	539	53
Female	73	4	5.5	84	5	6.0	93	6	6.4	90	7
Total	623	52	8.4	632	77	12.2	659	54	8.2	629	60
Geography											
Male	197	36	18.3	210	26	12.4	207	28	13.5	192	29
Female	24	3	12.5	27	2	7.4	28	2	7.1	34	2
Total	221	39	17.6	237	28	11.8	235	30	12.8	226	31
Law											
Male	53	6	11.3	34	8	23.5	45	4	8.9	39	2
Female	14	1	7.1	10	1	10.0	11	1	9.1	7	2
Total	67	7	10.4	44	9	20.4	56	5	8.9	46	4
Political Science											
Male	252	18	7.1	262	17	6.5	261	23	8.8	258	22
Female	41	2	4.9	54	2	3.7	56	2	3.6	60	4
Total	293	20	6.8	316	19	6.0	317	25	7.9	318	26
Psychology											
Male	824	111	13.5	826	108	13.1	810	99	12.2	736	114
Female	481	37	7.7	509	45	8.8	523	43	8.2	537	55
Total	1,312	148	11.3	1,335	153	11.5	1,333	142	10.6	1,273	169
Social Work											
Male	30	4	13.3	39	4	10.3	28	6	21.4	29	4
Female	14	3	21.4	22	1	4.6	17	2	11.8	17	1
Total	44	7	15.9	61	5	8.2	45	8	17.8	46	4
Sociology											
Male	348	34	9.8	339	35	10.3	363	31	8.5	364	37
Female	167	7	4.2	170	11	6.5	196	12	6.1	181	20
Total	515	41	8.0	509	46	9.0	559	43	7.7	545	57
Other Social Sciences											
Male	199	18	9.0	223	27	12.1	213	17	8.0	214	25
Female	119	12	10.1	151	12	8.0	154	8	5.2	160	4
Total	318	30	9.4	374	39	10.4	367	25	6.8	374	29
Sub-total Social Sciences											
Male	2,693	299	11.1	2,724	326	12.0	2,764	272	9.8	2,646	323
Female	1,024	73	7.1	1,127	84	7.4	1,181	85	7.2	1,200	100
Total	3,742	372	9.9	3,851	410	10.6	3,945	357	9.0	3,846	423
Total Human Sciences											
Male	5,532	641	11.6	5,559	601	10.8	5,418	581	10.7	5,193	623
Female	2,506	187	7.5	2,659	219	8.2	2,745	216	7.9	2,817	223
Total	8,099	828	10.2	8,218	8,163	10.0	8,163	797	9.8	8,010	846

Doctoral Degrees as a Percentage of Total Doctoral Enrolment, by Discipline and Sex,
1970-71 to 1979-80 — concluded

	Enrol- ment	1970-71		1971-72		1972-73		1973-74		1974-75	
		Degrees As % of enrol.		Enrol- ment		Degrees As % of enrol.		Enrol- ment		Degrees As % of enrol.	
		No.	As % of enrol.	No.	As % of enrol.	No.	As % of enrol.	No.	As % of enrol.	No.	As % of enrol.
Agriculture											
Male	245	62	25.3	237	44	18.6	226	48	21.2	197	62
Female	24	5	20.8	20	2	10.0	22	4	18.2	17	2
Total	269	67	24.9	257	46	17.9	248	52	21.0	214	64
Male	713	110	15.4	681	136	20.0	585	142	24.3	601	129
Female	110	12	10.9	114	11	9.6	108	17	15.7	129	20
Total	823	122	14.8	795	147	18.5	693	159	22.9	730	149
Male	111	42	37.8	147	73	49.7	136	26	19.1	147	28
Female	35	4	11.4	35	10	28.6	36	3	8.3	41	9
Total	146	46	31.5	182	83	45.6	172	29	16.9	188	37
Male	1,069	214	20.0	1,065	253	23.8	947	216	22.8	945	219
Female	169	21	12.4	169	23	13.6	166	24	14.5	187	31
Total	1,238	235	19.0	1,234	276	22.4	1,113	240	21.6	1,132	250
Sub-total Agric. and Biological Sciences											
Male	1,440	188	13.1	1,441	225	15.6	1,401	260	18.6	1,256	289
Female	22	—	0.0	22	—	0.0	39	1	2.6	34	10
Total	1,462	188	12.9	1,463	225	15.4	1,440	261	18.1	1,290	299
Engineering											
Male	87	13	6	547	91	16.6	517	128	24.8	462	145
Female	153	18	5.2	139	11	7.9	129	23	17.8	124	33
Total	791	95	12.0	686	102	14.9	646	151	23.4	586	178
Male	617	55	8.9	617	81	13.1	620	93	15.0	544	111
Female	48	6	12.5	42	4	9.5	52	4	7.7	54	2
Total	665	61	9.2	659	85	12.9	672	97	14.4	598	113
Male	204	21	3	879	219	24.9	805	208	25.8	673	208
Female	74	5	6.8	82	22	26.8	84	13	15.5	81	17
Total	1,032	209	20.2	961	241	25.1	889	221	24.9	763	225
Male	235	37	15.7	245	37	15.1	233	41	17.6	226	38
Female	9	—	0.0	8	1	12.5	9	—	0.0	16	1
Total	244	37	15.2	253	38	15.0	242	43	17.8	242	39
Male	696	113	16.2	670	122	18.2	555	129	23.2	473	147
Female	26	5	19.2	27	6	22.2	26	3	11.5	24	3
Total	722	118	16.3	697	128	18.4	581	132	22.7	508	150
Male	74	31	41.9	82	35	42.7	97	28	28.9	126	30
Female	6	—	0.0	9	1	11.1	9	3	33.3	14	—
Total	80	31	38.8	91	36	39.6	117	31	26.5	140	30
Male	2,580	440	17.0	2,493	494	19.8	2,310	501	21.7	2,042	534
Female	163	16	9.8	168	34	20.2	180	23	12.8	189	23
Total	2,743	456	16.6	2,661	528	19.8	2,501	524	21.0	2,251	557
Total Sciences											
Male	5,727	929	16.2	5,546	1,063	19.2	5,175	1,105	21.4	4,705	1,187
Female	507	45	8.9	498	68	13.6	514	71	13.8	534	97
Total	6,234	974	15.6	6,044	1,131	18.7	5,700	1,176	20.6	5,259	1,284
Grand Total**											
Male	10,461	1,247	11.9	10,662	1,474	13.8	10,668	1,564	14.7	10,325	1,712
Female	2,162	128	5.9	2,338	151	6.5	2,613	160	6.1	2,745	217
Total	12,623	1,375	10.9	13,000	1,625	12.5	13,424	1,724	12.8	13,172	1,929

* The number of degrees granted is expressed as a percentage of total enrolment.

** Grand Total includes some non-specified.

Note: When male plus female does not equal total, the difference is due to the non-reporting of sex.

Table A-15

Doctoral Degrees as a Percentage of Total Doctoral Enrolment, by Discipline and Sex,
1970-71 to 1979-80 - continued

	Enrol- ment	1975-76		1976-77		1977-78		1978-79		1979-80	
		Degrees No.	As % of enrol.								
Agriculture											
Male	209	35	16.8	230	36	15.6	212	47	22.2	208	46
Female	21	4	19.0	30	3	10.0	33	3	9.1	37	5
Total	230	39	17.0	260	39	15.0	245	50	20.4	245	51
Biology, Botany & Zoology											
Male	558	132	23.7	500	100	20.0	524	120	22.9	539	121
Female	130	27	20.8	142	25	17.6	154	17	11.0	167	25
Total	688	159	23.1	642	125	19.5	678	137	20.2	706	146
Other Biological Sciences											
Male	144	31	21.5	177	24	13.6	140	35	25.0	109	32
Female	51	12	23.5	48	11	22.9	51	6	11.8	30	10
Total	195	43	22.0	225	35	15.6	193	41	21.2	139	42
Sub-total Agric. & Biological Sciences											
Male	911	198	21.7	907	160	17.6	876	202	23.1	856	199
Female	202	43	21.3	220	39	17.7	238	26	10.9	234	40
Total	1,113	241	21.6	1,127	199	17.7	1,116	228	20.4	1,090	239
Engineering											
Male	1,152	218	18.9	1,213	178	14.7	1,190	201	16.9	1,112	217
Female	49	9	18.4	44	11	25.0	53	2	3.8	52	7
Total	1,252	227	18.1	1,257	189	15.0	1,243	203	16.3	1,164	224
Health Sciences											
Male	437	97	22.2	410	84	20.5	430	78	18.1	482	97
Female	152	25	16.4	168	21	12.5	184	27	14.7	220	28
Total	589	122	20.7	598	105	18.2	614	105	17.1	702	125
Mathematics											
Male	481	86	17.9	488	65	13.3	472	85	18.0	426	85
Female	62	6	9.7	59	10	17.0	56	13	23.2	59	6
Total	543	92	16.9	547	75	13.7	528	98	18.6	485	91
Chemistry											
Male	563	150	26.6	555	141	25.4	553	103	18.6	540	115
Female	88	17	19.3	89	14	15.7	91	14	15.4	85	18
Total	659	167	25.3	644	155	24.1	644	117	18.2	625	133
Geology											
Male	253	33	13.0	240	46	19.2	236	43	18.2	217	49
Female	15	1	6.7	20	2	10.0	16	4	25.0	17	4
Total	268	34	12.7	260	48	18.5	252	47	18.6	234	53
Physics											
Male	453	104	23.0	449	89	19.8	431	85	19.7	438	90
Female	28	4	14.3	31	2	6.4	31	3	9.7	38	5
Total	489	108	22.1	492	91	18.5	475	88	18.5	476	95
Other Math. & Physical Sciences											
Male	103	17	16.5	84	11	13.1	64	18	28.1	58	13
Female	15	4	26.7	8	-	0.0	6	1	16.7	6	-
Total	133	21	15.8	92	11	12.0	70	19	27.1	64	13
Sub-total Math. & Physical Sciences											
Male	1,853	390	21.0	1,816	352	19.4	1,756	334	19.0	1,679	352
Female	208	32	15.4	207	28	13.5	200	35	17.5	205	33
Total	2,092	422	20.2	2,035	380	18.7	1,969	369	18.7	1,884	385
Total Sciences											
Male	4,353	903	20.7	4,346	774	17.8	4,252	815	19.2	4,129	865
Female	611	109	17.8	639	99	15.5	675	90	13.3	711	108
Total	5,046	1,012	20.1	4,997	873	17.5	4,942	905	18.3	4,840	973
Grand Total**											
Male	9,915	1,544	15.6	9,943	1,375	13.8	9,724	1,396	14.4	9,369	1,488
Female	3,124	296	9.5	3,305	318	9.6	3,432	306	8.9	3,544	331
Total	13,182	1,840	14.0	13,260	1,693	12.8	13,171	1,702	12.9	12,913	1,819

Table A-16

Research and Development Expenditures Related to
Bachelor's Degrees in Science, 1970 to 1980

Year	GERD in Constant 1971 Dollars	Bachelor's Degrees in Science	Per Capita Expenditures on R & D in Constant 1971 Dollars
(\$'000)			
1970	\$1,028,000	15,391	\$66,792
1971	\$1,155,000	16,807	\$68,721
1972	\$1,129,000	18,488	\$61,067
1973	\$1,109,000	18,672	\$59,394
1974	\$1,128,000	20,688	\$54,524
1975	\$1,141,000	22,255	\$51,269
1976	\$1,125,000	22,752	\$49,446
1977	\$1,175,000	23,070	\$50,932
1978	\$1,271,000	24,313	\$52,277
1979	\$1,308,000	25,137	\$52,035
1980	\$1,363,000	25,583	\$53,278

Note: GERD = Gross Domestic Expenditures on Research and Development.

Table A-17

Research and Development Expenditures Related to
Master's Degrees in Science, 1970 to 1980

Year	GERD in Constant 1971 Dollars	Master's Degrees in Science	Per Capita Expenditure R & D in Constant 1971 Dollars
	(\$'000)		(\$'000)
1970	\$1,028,000	2,313	\$444,444
1971	\$1,155,000	2,540	\$454,724
1972	\$1,129,000	2,396	\$471,202
1973	\$1,109,000	2,270	\$488,546
1974	\$1,128,000	2,021	\$558,140
1975	\$1,141,000	2,165	\$527,021
1976	\$1,125,000	2,252	\$499,556
1977	\$1,175,000	2,437	\$482,150
1978	\$1,271,000	2,435	\$521,971
1979	\$1,308,000	2,312	\$565,744
1980	\$1,363,000	2,278	\$598,332

Note: GERD = Gross Domestic Expenditure for Research and Development

Table A-18

Full-time Undergraduate Enrolment by field of Study and by Sex, 1970-71 to 1980-81

		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	
Arts	Male	57,214 (55.5)	56,098 (54.2)	51,027 (54.0)	50,729 (53.1)	50,660 (51.9)	52,322 (51.0)	50,310 (49.3)	47,715 (48.3)	44,988 (47.6)	43,418 (46.5)	43,436 (45.9)	
	Female	45,894 (44.5)	47,432 (45.8)	43,507 (46.0)	44,830 (46.9)	46,873 (48.1)	50,304 (49.0)	51,801 (50.7)	51,149 (51.7)	49,542 (52.4)	49,960 (53.5)	51,270 (54.1)	
Total		103,108 (100.0)	103,530 (100.0)	94,534 (100.0)	95,559 (100.0)	97,533 (100.0)	102,626 (100.0)	102,111 (100.0)	98,864 (100.0)	94,530 (100.0)	93,378 (100.0)	94,706 (100.0)	
Commerce & Business	Male	15,035 (89.8)	17,386 (86.1)	18,672 (83.9)	20,616 (81.9)	21,598 (80.4)	23,197 (78.0)	23,736 (73.8)	24,149 (70.5)	24,756 (67.8)	26,271 (65.2)	27,983 (62.8)	
	Administration	Female	1,712 (10.2)	2,803 (13.9)	3,594 (16.1)	4,561 (18.1)	5,279 (19.6)	6,555 (22.0)	8,425 (26.2)	10,110 (29.5)	11,732 (32.2)	14,009 (34.8)	16,544 (37.2)
Total		16,747 (100.0)	20,189 (100.0)	22,266 (100.0)	25,177 (100.0)	26,877 (100.0)	29,752 (100.0)	32,161 (100.0)	34,259 (100.0)	36,488 (100.0)	40,280 (100.0)	44,527 (100.0)	
Education	Male	16,805 (43.6)	17,154 (44.2)	15,606 (42.4)	15,943 (41.5)	15,797 (39.2)	17,205 (38.1)	16,845 (36.0)	15,542 (34.8)	13,544 (33.6)	12,071 (32.3)	11,410 (31.4)	
	Female	21,726 (56.4)	21,687 (55.8)	21,164 (57.6)	22,507 (58.5)	24,508 (60.8)	27,913 (61.9)	29,942 (64.0)	29,103 (65.2)	26,795 (66.4)	25,312 (67.7)	24,972 (68.6)	
Total		38,531 (100.0)	38,841 (100.0)	36,770 (100.0)	38,450 (100.0)	40,305 (100.0)	45,118 (100.0)	46,787 (100.0)	44,645 (100.0)	40,349 (100.0)	37,383 (100.0)	36,382 (100.0)	
Fine & Applied Arts	Male	2,353 (43.2)	3,457 (46.1)	3,798 (42.2)	4,137 (41.8)	4,303 (40.9)	4,516 (39.2)	4,677 (39.5)	4,562 (38.5)	4,568 (38.4)	4,576 (38.5)	4,675 (38.4)	
	Female	3,093 (56.8)	4,048 (53.9)	5,207 (57.8)	5,763 (58.2)	6,211 (59.1)	7,005 (60.8)	7,161 (60.5)	7,301 (61.5)	7,336 (61.6)	7,302 (61.5)	7,514 (61.6)	
Total		5,446 (100.0)	7,505 (100.0)	9,005 (100.0)	9,900 (100.0)	10,514 (100.0)	11,521 (100.0)	11,838 (100.0)	11,663 (100.0)	11,904 (100.0)	11,878 (100.0)	12,189 (100.0)	
Law	Male	6,328 (87.3)	6,609 (85.1)	6,666 (82.0)	6,735 (79.7)	6,403 (76.3)	6,510 (73.3)	6,527 (70.2)	6,415 (67.9)	6,268 (66.0)	6,118 (63.6)	6,019 (61.8)	
	Female	922 (12.7)	1,155 (14.9)	1,468 (18.0)	1,718 (20.3)	1,994 (23.7)	2,375 (26.7)	2,767 (29.8)	3,036 (32.1)	3,223 (34.0)	3,500 (36.4)	3,724 (38.2)	
Total		7,250 (100.0)	7,764 (100.0)	8,134 (100.0)	8,453 (100.0)	8,397 (100.0)	8,885 (100.0)	9,294 (100.0)	9,451 (100.0)	9,491 (100.0)	9,618 (100.0)	9,743 (100.0)	
Religion & Theology	Male	2,037 (76.3)	1,633 (71.3)	1,478 (66.6)	1,389 (65.7)	1,477 (66.8)	1,487 (66.0)	1,570 (64.1)	1,475 (70.0)	1,427 (66.2)	1,953 (72.8)	2,055 (70.2)	
	Female	633 (23.7)	657 (26.7)	740 (33.4)	726 (34.3)	735 (33.2)	765 (34.0)	881 (35.9)	631 (30.0)	727 (33.8)	728 (27.2)	871 (29.8)	
Total		2,670 (100.0)	2,290 (100.0)	2,218 (100.0)	2,115 (100.0)	2,212 (100.0)	2,252 (100.0)	2,451 (100.0)	2,106 (100.0)	2,154 (100.0)	2,681 (100.0)	2,926 (100.0)	

Table A-18
(cont'd)

Full-time Undergraduate Enrolment by Field of Study and by Sex, 1970-71 to 1980-81 (Contd)

		1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Sub-total	Human Sciences	99,772 (57.4)	102,337 (56.8)	97,247 (56.2)	99,549 (55.4)	100,238 (53.9)	105,237 (52.6)	103,665 (50.7)	99,858 (49.6)	95,561 (49.0)	94,407 (48.4)	95,578 (47.7)
Female	73,980 (42.6)	77,782 (43.2)	75,680 (43.8)	80,105 (44.6)	85,600 (46.1)	94,917 (47.4)	100,977 (49.3)	101,330 (50.4)	99,355 (51.0)	100,811 (51.6)	104,895 (52.3)	104,895 (52.3)
Total	173,752 (100.0)	180,119 (100.0)	172,927 (100.0)	179,654 (100.0)	185,838 (100.0)	200,154 (100.0)	204,642 (100.0)	201,188 (100.0)	194,916 (100.0)	195,218 (100.0)	200,473 (100.0)	200,473 (100.0)
Sciences	Male	37,099 (72.0)	36,555 (70.0)	38,013 (68.3)	38,731 (67.8)	37,312 (65.3)	36,801 (63.5)	35,342 (61.9)	34,236 (60.9)	32,560 (59.8)	33,498 (59.5)	34,729 (59.7)
Female	14,408 (28.0)	15,773 (30.1)	17,630 (31.7)	18,390 (32.2)	19,829 (34.7)	21,187 (36.5)	21,708 (38.1)	21,974 (39.1)	21,888 (40.2)	22,809 (40.5)	23,424 (40.3)	23,424 (40.3)
Total	51,507 (100.0)	52,328 (100.0)	55,643 (100.0)	57,121 (100.0)	57,141 (100.0)	57,988 (100.0)	57,050 (100.0)	56,210 (100.0)	54,448 (100.0)	56,307 (100.0)	58,153 (100.0)	58,153 (100.0)
Agriculture	Male	3,332 (89.5)	3,065 (86.9)	2,628 (84.3)	2,889 (80.5)	3,297 (77.4)	3,420 (74.1)	3,770 (72.5)	3,661 (68.8)	3,434 (66.3)	3,169 (66.0)	3,057 (64.5)
Female	389 (10.5)	462 (13.1)	489 (15.7)	702 (19.5)	960 (22.6)	1,193 (25.9)	1,431 (27.5)	1,662 (31.2)	1,742 (33.7)	1,636 (34.0)	1,679 (35.0)	1,679 (35.5)
Total	3,721 (100.0)	3,527 (100.0)	3,117 (100.0)	3,591 (100.0)	4,257 (100.0)	4,613 (100.0)	5,201 (100.0)	5,323 (100.0)	5,176 (100.0)	4,805 (100.0)	4,736 (100.0)	4,736 (100.0)
Environmental Studies	Male	—	—	—	—	701	763	963	1,061	1,006	1,225	1,295
Female	—	—	—	—	—	(74.9)	(71.4)	(71.7)	(67.4)	(65.6)	(66.3)	(64.9)
Total	—	—	—	—	—	936	1,068	1,343	1,574	1,534	1,994	1,994
Engineering & Applied Sciences	Male	25,232 (98.2)	25,986 (97.6)	24,987 (97.4)	25,050 (96.7)	26,659 (95.5)	29,095 (94.5)	30,631 (93.3)	32,288 (92.5)	33,081 (91.8)	33,774 (91.1)	34,555 (90.3)
Female	474 (0.2)	649 (2.4)	669 (2.6)	865 (3.3)	1,268 (4.5)	1,707 (5.5)	2,184 (6.7)	2,623 (7.5)	2,968 (8.2)	3,305 (8.9)	3,692 (9.7)	3,692 (9.7)
Total	25,706 (100.0)	26,635 (100.0)	25,656 (100.0)	25,915 (100.0)	27,927 (100.0)	30,802 (100.0)	32,815 (100.0)	34,911 (100.0)	36,069 (100.0)	37,079 (100.0)	38,247 (100.0)	38,247 (100.0)
Dentistry	Male	1,559 (94.4)	1,657 (92.5)	1,682 (91.7)	1,719 (91.1)	1,653 (88.5)	1,666 (87.0)	1,660 (84.7)	1,653 (82.7)	1,646 (82.4)	1,625 (81.3)	1,581 (79.3)
Female	92 (5.6)	134 (7.5)	153 (8.3)	167 (8.9)	215 (11.5)	250 (13.0)	301 (15.3)	340 (17.1)	352 (17.6)	374 (18.7)	413 (20.7)	413 (20.7)
Total	1,651 (100.0)	1,791 (100.0)	1,835 (100.0)	1,886 (100.0)	1,868 (100.0)	1,916 (100.0)	1,961 (100.0)	1,993 (100.0)	1,998 (100.0)	1,999 (100.0)	1,994 (100.0)	1,994 (100.0)

Table A-1.8
(cont'd)

Full-time Undergraduate Enrolment by Field of Study and by Sex 1970-71 to 1980-81 (Contd)

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Medicine	Male 4,694 (81.9)	5,048 (79.7)	5,293 (77.7)	5,366 (75.7)	6,171 (73.8)	6,442 (72.8)	6,541 (70.1)	6,379 (68.2)	6,392 (67.0)	6,300 (66.0)	6,255 (64.0)
Female	1,039 (18.1)	1,282 (20.3)	1,522 (22.3)	1,722 (24.3)	2,190 (26.2)	2,401 (27.2)	2,787 (29.9)	2,976 (31.8)	3,149 (33.0)	3,247 (34.0)	3,525 (36.0)
Total	5,733 (100.0)	6,330 (100.0)	6,815 (100.0)	7,088 (100.0)	8,361 (100.0)	8,843 (100.0)	9,328 (100.0)	9,355 (100.0)	9,541 (100.0)	9,547 (100.0)	9,780 (100.0)
Miscellaneous	Male 596 (23.8)	777 (27.3)	614 (23.6)	641 (22.1)	422 (16.3)	522 (18.2)	642 (20.2)	596 (19.0)	594 (19.1)	557 (18.1)	540 (17.5)
Health	Female 1,904 (76.2)	2,067 (72.7)	1,987 (76.4)	2,261 (77.9)	2,163 (83.7)	2,351 (81.8)	2,540 (79.8)	2,545 (81.0)	2,511 (80.9)	2,512 (81.9)	2,540 (82.5)
Total	2,500 (100.0)	2,844 (100.0)	2,601 (100.0)	2,902 (100.0)	2,585 (100.0)	2,873 (100.0)	3,182 (100.0)	3,141 (100.0)	3,105 (100.0)	3,069 (100.0)	3,080 (100.0)
Nursing	Male 91 (2.1)	99 (2.1)	90 (1.9)	108 (2.1)	125 (2.2)	174 (2.7)	175 (2.8)	144 (2.5)	153 (2.7)	159 (2.7)	170 (2.9)
Female	4,300 (97.9)	4,641 (97.9)	4,770 (98.1)	4,997 (97.9)	5,608 (97.8)	6,247 (97.3)	6,001 (97.2)	5,688 (97.5)	5,584 (97.3)	5,635 (97.1)	5,676 (97.1)
Total	4,391 (100.0)	4,740 (100.0)	4,860 (100.0)	5,105 (100.0)	5,733 (100.0)	6,421 (100.0)	6,176 (100.0)	5,832 (100.0)	5,737 (100.0)	5,794 (100.0)	5,846 (100.0)
Pharmacy	Male 1,054 (51.0)	1,090 (47.5)	1,142 (45.0)	1,121 (43.8)	1,094 (41.5)	1,062 (39.5)	1,082 (39.6)	1,053 (38.1)	1,004 (38.1)	1,008 (36.8)	1,000 (36.3)
Female	1,014 (49.0)	1,204 (52.5)	1,395 (55.0)	1,441 (56.2)	1,539 (58.5)	1,624 (60.5)	1,652 (60.4)	1,712 (61.9)	1,725 (63.2)	1,774 (63.8)	1,755 (63.7)
Total	2,068 (100.0)	2,294 (100.0)	2,537 (100.0)	2,562 (100.0)	2,633 (100.0)	2,686 (100.0)	2,734 (100.0)	2,765 (100.0)	2,729 (100.0)	2,782 (100.0)	2,755 (100.0)
Household Sciences	Male 20 (0.7)	36 (1.1)	98 (2.6)	113 (2.5)	129 (2.9)	96 (2.2)	91 (2.3)	91 (2.5)	62 (1.8)	96 (2.7)	97 (2.9)
Female	2,921 (99.3)	3,367 (98.9)	3,739 (97.4)	4,322 (97.5)	4,365 (97.1)	4,225 (97.8)	3,787 (97.7)	3,615 (97.5)	3,343 (98.2)	3,445 (97.3)	3,268 (97.1)
Total	2,941 (100.0)	3,403 (100.0)	3,837 (100.0)	4,435 (100.0)	4,494 (100.0)	4,321 (100.0)	3,878 (100.0)	3,706 (100.0)	3,405 (100.0)	3,541 (100.0)	3,365 (100.0)
Veterinary Medicine	Male 621 (87.8)	665 (83.9)	698 (81.5)	685 (76.8)	701 (74.3)	704 (70.5)	664 (66.4)	629 (62.0)	621 (57.4)	596 (56.0)	535 (53.1)
Female	86 (12.2)	128 (16.1)	158 (18.5)	207 (23.2)	242 (25.7)	295 (29.5)	336 (33.6)	386 (38.0)	461 (42.6)	469 (44.0)	472 (46.9)
Total	707 (100.0)	793 (100.0)	856 (100.0)	943 (100.0)	999 (100.0)	1,000 (100.0)	1,015 (100.0)	1,082 (100.0)	1,065 (100.0)	1,077 (100.0)	1,007 (100.0)

Table A-18
(cont'd)

Full-time Undergraduate Enrolment by Field of Study and by Sex, 1970-71 to 1980-81 (Concluded)

	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81
Sub-total											
Sciences	Male	74,298 (73.6)	74,978 (71.6)	75,244 (69.8)	76,423 (68.5)	78,264 (67.0)	80,745 (65.9)	81,561 (65.4)	81,791 (65.0)	80,553 (64.5)	82,007 (64.1)
	Female	26,627 (26.4)	29,707 (28.4)	32,513 (30.2)	35,074 (31.5)	38,614 (33.0)	41,785 (34.1)	43,107 (34.6)	44,034 (34.6)	44,251 (35.0)	45,830 (35.5)
Total		100,925 (100.0)	104,685 (100.0)	107,757 (100.0)	111,497 (100.0)	116,878 (100.0)	122,530 (100.0)	124,668 (100.0)	125,825 (100.0)	124,804 (100.0)	127,837 (100.0)
Unclassified	Male	875 (54.0)	1,527 (66.0)	2,670 (63.4)	2,239 (58.5)	3,549 (55.0)	4,428 (56.4)	3,915 (59.7)	3,788 (58.4)	3,862 (58.4)	3,599 (52.2)
	Female	745 (46.0)	787 (34.0)	1,543 (36.6)	1,586 (41.5)	2,906 (45.0)	3,425 (43.6)	2,641 (40.3)	2,699 (41.6)	3,236 (45.6)	3,280 (47.8)
Total		1,620 (100.0)	2,314 (100.0)	4,213 (100.0)	3,825 (100.0)	6,455 (100.0)	7,853 (100.0)	6,556 (100.0)	6,487 (100.0)	7,098 (100.0)	6,859 (100.0)
Grand Total	Male	174,945 (63.3)	178,842 (62.3)	175,161 (62.3)	178,211 (60.4)	182,051 (58.9)	190,410 (58.9)	189,141 (57.6)	185,437 (56.3)	179,976 (55.3)	183,623 (54.0)
	Female	101,352 (36.7)	108,276 (37.7)	109,736 (38.5)	116,765 (39.6)	127,120 (41.1)	140,127 (42.4)	146,725 (43.7)	148,063 (44.4)	146,842 (44.9)	149,921 (45.4)
Total		276,297 (100.0)	287,118 (100.0)	284,897 (100.0)	294,976 (100.0)	309,171 (100.0)	330,537 (100.0)	335,866 (100.0)	333,500 (100.0)	326,818 (100.0)	329,914 (100.0)

Appendix B

Explanatory Notes on the Data

The data in this report are derived from Statistics Canada annual publications, among them Degrees, diplomas, certificates awarded by degree-granting institutions (81-211), Universities: Enrolment and degrees (81-204), and Education in Canada (81-229). Unpublished worktables and specially prepared printouts from the enrolment and graduation files of Statistics Canada's University Student/Information System have also been used (data for 1980-81 are preliminary).

These statistical series have several limitations. During the reference period, the universities and/or Statistics Canada may have changed their classification systems. As a result, the series may contain discontinuities. For example, after 1972-73 degrees were reported on a calendar year basis instead of for each academic year. The discipline classification, itself, is based on eight very broad fields of study: education, fine and applied arts, humanities, social sciences, agricultural and biological sciences, engineering and applied sciences, health sciences, and mathematics and physical sciences.. These fields encompass the following disciplines:

Education

Physical Education
Other Education

Fine and Applied Arts

Music
Other Fine and Applied Arts

Humanities

Classics
History
Library and Records Science
Mass Media Studies
English
French
German
Spanish
Other Modern Languages
Philosophy
Religious Studies

Social Sciences

Anthropology (includes Archaeology)
Area Studies
Commerce, Business Administration
Economics
Geography
Law
Political Science
Psychology
Social Work
Sociology

Agricultural and Biological Sciences

Agriculture
Biology
Botany
Household Science
Veterinary Medicine and Science
Zoology

Engineering and Applied Sciences

Architecture
Chemical Engineering
Civil Engineering
Mechanical Engineering
Electrical Engineering
Mining Engineering
Other Engineering and Applied Sciences

Health Sciences

Dentistry
Medicine
Nursing
Pharmacy
Other Health Sciences

Physical Sciences

Mathematics (includes Actuarial Science, Statistics, Applied Mathematics and Computer Science)

Chemistry

Geology

Physics

Those bachelor level graduates who have received their degree either in arts or in science have been reallocated: 50% to arts graduates and 50% to the science category. It should also be noted that in many instances, these graduates have taken a minimum number of courses in a particular discipline.

A number of other qualifications must be considered when the supply of graduates from Canadian universities is related to the demand for highly qualified manpower. The data in this report exclude Canadians who have obtained their degree(s) abroad. In recent years an estimated 15,000 Canadians were studying abroad, mainly in the United States, but also in Great Britain and France.

The manpower supply data also exclude permanent residents (formerly landed immigrants) who came to Canada with (a) university degree(s). It should also be noted, that the labour market for highly qualified manpower is international, and a number of Canadians have emigrated or work abroad, thereby reducing the supply of graduates. Some tables exclude foreign students who graduated from Canadian universities; others include them. It has been estimated that during the last few years an average of 5,000 foreign students graduates annually, a large percentage of them in the sciences and at the master's and doctoral level.

Note: In preparing this report, the clerical pool of the Education, Science and Culture Division, supervised by Mrs. Ruth Ingalls, was extremely helpful, as was Mrs. Vera Demirovich of the Projections Section who supplied consistent statistical series on enrolment and graduation. Most of the tables were expertly typed by Mr. Robert Pellarin, and Christine Jolicoeur and Karina Ott von Wahl provided secretarial and clerical support.

RT.
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